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## Addresses.

### LEGISLATION FOR THE INSANE IN MASSACHUSETTS, WITH PARTICULAR REFERENCE TO THE VOLUNTARY ADMISSION AND TEMPORARY CARE LAWS.\*

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THE number of persons suffering from mental disease in Colonial times does not seem to have been sufficiently great to have made much of a problem. Neither the Colonial nor the Provincial laws make any reference to the class, with the exception of two provisions: one in the Body of Liberties (1641), providing that "Children, idiots, distracted persons and all that are strangers or new comers to our plantation shall have such allowance and dispensations in any cause, whether criminal or other, as religion and reason require," and the other in the Colonial Laws of 1641, providing that "Any conveyance or Alienation of land or other estate what so ever, made by any woman that is married, any children under age, idiot or distracted person, shall be good if it be passed and ratified by the consent of a General Court."<sup>2</sup>

The first Massachusetts law providing for the

care of insane persons was passed in 1797.<sup>1</sup> The method adopted in providing this care is of particular interest, as it speaks eloquently of the general conception of insanity held at the time. In 1788, a law had been passed entitled, "An act for suppressing rogues, vagabonds, common beggars and other idle, disorderly and lewd persons,"<sup>2</sup> which provided commitment to the house of correction by two justices of the peace. When, in 1797, the general court wished to provide for the insane, it amended the act of 1788 by inserting in the list with "rogues, vagabonds, common beggars and other idle, disorderly and lewd persons," the words "lunatic persons."

At the opening of the nineteenth century, insanity, in the opinion of most people, was a moral rather than a physical disease. Devilcraft was largely given up, but the theological idea that had taken its place—that insanity is pure mental and moral perversion, and represents the outbreak of the animal and violent elements of the fallen human soul which have culpably been permitted to get the upper hand of the higher attributes—was hardly more favorable to the sufferers from mental disease. To be sure, leaders in Europe had been urging that insanity was a disease comparable to physical disease. Rush had read a paper (1786) before the American Philosophical Society, "On the Influence of Physical Causes upon the Moral Faculty," and some practitioners were leaning feebly towards this idea. One physician "after forty years' experience" wrote (1806) that he was "not sure" but was "inclined to think in-

\* Read before the Bristol North District Medical Society, April 15, 1915. Read before the Essex North District Medical Society, May 2, 1915.

<sup>1</sup> Laws of 1797, Chap. 62, § 3.

<sup>2</sup> Passed March 26, 1788.

sanity due to a morbid condition of the brain."<sup>13</sup> But the idea was not popular, and made little headway against the religious, moral and metaphysical notions of the time. Insanity was a disease of the mind, it was held, and the mind was the seat of the soul. The relation that the brain might have to all this was little regarded. That insanity was a moral disease found strong expression even as late as 1830. Coleridge, in his "Table Talks," probably expressed the opinion of most educated people of the time when he wrote:—

"Madness is not simply a bodily disease. It is the sleep of the spirit with certain conditions of wakefulness; that is to say, lucid intervals. During this sleep or recession of the spirit, the lower or bestial states of life rise up into action and prominence. It is an awful thing to be eternally tempted by the perverse senses. The reason may resist—for a time; but too often, at length it yields for a moment and the man is mad forever."<sup>14</sup>

Thomas Cooper, M.D., (1831) in the preface to his translation of Broussais' "On Irritation and Insanity," speaks with intense feeling of the enmity of the clergy and the ignorance of the medical profession on the subject of the somatic nature of insanity, and so great did he feel the opposition and ignorance to be that he incorporated in the book a tract on materialism and a paper, "An Outline on the Association of Ideas."<sup>15</sup>

John Barlow, in 1843, writing "On Man's Power Over Himself to Prevent or Control Insanity," said, "... the being sane or otherwise, notwithstanding considerable disease of the brain, depends on the individual himself. He who has given a proper direction to the intellectual force and thus obtained an early command over the bodily organs by habituating it to the process of calm reasoning, remains sane amid all the vagaries of sense; while he who has been the slave, rather than the master of his animal nature, listens to its dictates without question, even when distorted by disease—and is mad. A fearful result of an uncultivated childhood!"<sup>16</sup>

The trustees appointed to superintend the construction of the Worcester Lunatic Asylum make note of this popular feeling in their first report, stating that "the universal opinion has been that it (insanity) was an awful visitation from Heaven, and that no human agency could reverse the judgment by which it was inflicted."<sup>17</sup> They take a position against this view, but further in their report show how firmly entrenched the metaphysical conception must have been in that they were not wholly free of it themselves. In outlining their plans for the treatment of patients they provide, if necessary, an attendant to each patient, "whose duty it is to remain constantly at his side to occupy his (the patient's) attention with pleasant themes

... to soothe and pacify that portion of the mind which had been excited to frenzy and so to allow those faculties whose action remained undisturbed to gain the ascendancy."<sup>18</sup> Further, they are to provide for their patients beautiful scenery, so that "the restorative influences of nature may strike some chord in the heart as yet unbroken in the fatal struggle with worldly disappointments."<sup>19</sup>

Amid such conceptions, the McLean Hospital was opened in 1818. Insanity being considered incurable, the hospital was planned to serve humanitarian purposes rather than medical. It is interesting to observe that no new legislation relative to the status of insane patients was considered necessary upon the opening of the hospital. The law of 1797 was still in force, and a new law had been passed in 1816 providing that any person acquitted of crime because of insanity might be committed to jail by any justice of the supreme judicial court until he recovered. But neither the law of 1797 nor the law of 1816 affected the McLean Hospital. Access to it was as free and upon the same basis as access to any hospital. The hospital was opened for the care of persons suffering from insanity whose friends or family desired them cared for, and it seemed quite logical and proper at that time that such persons should be received in the same manner as another member of the family might be admitted to the Massachusetts General Hospital.

During the late twenties, a new interest was aroused in the insane. Word came from the better hospitals of England and this country that the condition in its early stages was largely curable; that the insane neglected in cages and pens, cellars, outhouses, prisons and almshouses were hopeless, but much, if not all, of this could be prevented if insane individuals were given proper treatment sufficiently early. On the wave of enthusiasm created by this new idea, the Worcester Lunatic Hospital was ordered built, and was opened in 1833. All persons to be committed thereafter under the laws of 1797 and 1816 were ordered committed to the custody of the hospital at Worcester, and all confined in jails or houses of correction under order, decree, or sentence of any court, or any judicial officer by virtue of the above statute were ordered to be sent to the Worcester Hospital as soon as practicable.

Up to the time of the opening of the Worcester Hospital patients were committed by order of any two justices of the peace or by a justice of the supreme judicial court. With the opening of the Worcester Hospital, the power of committal was taken from the justice of the peace and bestowed as follows: "Judges of Probate in all counties except Suffolk—in Suffolk the Judges of the Municipal Court—in addition to the Justice of the Supreme Judicial Court and the Court of Common Pleas."<sup>20</sup> The law of

<sup>20</sup> Acts of 1833, Chap. XCV.

1833 further specifies that the judges shall commit those "so furiously mad as to render it manifestly dangerous to the peace and safety of the community that such lunatics should continue at large." It did not call upon the judge to decide, nor give him right to decide, whether the person before him were sane or insane, but whether he was "so furiously mad" as to be a danger to the community. The obvious intent of the law was not that the judges should control the admission of patients to the hospitals, but that they should be given power to commit those who might resist such admission and whose presence at large would be a danger. This law did not prevent the free access to the hospitals of those who desired such admission. Admission to the Worcester Hospital was as free and informal at this time as had been the admission to the McLean Hospital in the preceding fifteen years. That the law was so conceived and understood is borne out by the fact that the superintendent in his reports notes those who have been committed "by friends" without court action, and urges friends and relatives to bring their insane patients as early as possible.

Further evidence of this interpretation is the law passed in 1836, which provided that "the trustees may also, in their discretion, receive into the hospital for a less sum (than the actual expense) any poor persons suffering under recent insanity, whether supported or not by any town or city."<sup>†</sup>

Public care of insane persons was new in Massachusetts. There were no precedents to follow. It is not surprising, then, that a spirit of uncertainty as to the best method of procedure should be manifested in the changing of the laws from time to time during the early years of the hospital. In 1834, a provision was added to the effect that "Any person or persons making application (for commitment) must first give notice in writing to the selectmen, or either of them, in the town, or to the mayor of the city where such lunatic resides, of the intention so to apply" and that "satisfactory evidence that this has been done be presented to the judge."<sup>†</sup> This provision was slightly changed in 1836.<sup>‡</sup>

In 1837, trial by jury was provided for.<sup>||</sup> This provision for a jury in cases of lunacy did not come from distrust of the hospitals or their officers, nor from any feeling that the determination of lunacy was a lay or legal rather than a medical matter. It must be held in mind that at this time access to the hospitals was free, and that the courts were called upon to decide merely whether a patient's madness made him a sufficient danger in the community to warrant his forcible detention. The suggestion for a jury trial came originally from Dr. Samuel Woodward, first superintendent of the Worcester Lunatic Hospital. In his fourth annual

report (1836) he had cited the fact that the courts have a right to commit any persons who are a danger to the community, had asserted his confidence in the courts, but had added, "the spirit of our institutions is adverse to the uncontrolled exercise, by any tribunal, of so great a power as this. It should guard with scrupulous jealousy against every possible encroachment upon the liberty of the citizen under whatever pretence; and we would respectfully propose such a modification of the statute as would in every case, recur to the individual or to his friends, if they should think proper to claim it, the right to have the facts in the matter of dangerous lunacy determined by a jury."

In 1839, a law was passed authorizing the City of Boston to build a hospital.\* Power of commitment was lodged with the municipal court. In 1840, this power of commitment in Boston was taken from the municipal court and given to the police court "saving to the person complained against the right to appeal from such order to the Municipal Court of the City of Boston."<sup>†</sup>

By 1840, opinion in regard to the method of procedure seems to have been settled, and from that time until 1853, a period of thirteen years, no changes were made. In fact, no serious changes were made after the law of 1833 had been slightly amended in 1834. For a period of practically twenty years, the procedure outlined in these laws was followed, and the hospitals were permitted to perform their service without further legal obstruction.

The Worcester Hospital opened its doors under very favorable auspices. The plan for taking the insane from their former wretched surroundings, caring for them, and restoring them to health and usefulness was very popular. The hospital was hailed as the "state's greatest charity" and was a source of great pride to the commoner. But the hospital had been opened under a misapprehension, with hopes that could not be fulfilled, and the results of this, and the conscientious mistakes made by the early superintendents and trustees in encouraging these false hopes, are still to be noted today. The commissioners who had been appointed by the governor of the Commonwealth to supervise the erection of the hospital at Worcester,—Horace Mann, Bezaleel Taft, Jr., W. B. Calhoun,—said in their first report, "It is now most abundantly demonstrated that with appropriate medical and moral treatment insanity yields with more readiness than ordinary diseases." Further, that "fifty, sixty, and in some instances ninety per cent. recover in well regulated institutions." "As early as 1827," says Pliny Earle, "by a combination of fortuitous and favorable circumstances, Dr. Todd of the Hartford Retreat was able to report the recovery of 21 out of 23 recent cases of insanity received into that institution.

<sup>†</sup> Revised Statutes, Chap. 48, § 8.

<sup>‡</sup> Acts of 1834, Chap. 48.

<sup>||</sup> Revised Laws (1836), Chap. 48, Sect. 7.

<sup>||</sup> Acts of 1837, Chap. 228, § 1.

\* Acts of 1839, Chap. 131.

<sup>†</sup> Acts of 1840, Chap. 79.

This remarkable result was reduced to a formula and the percentage (92.3) thus derived from less than one-quarter of a hundred cases was published and became more or less a criterion by which to measure the possibilities of all recent cases."<sup>10</sup>

As Earle points out, the decennium 1827-1837 was an age of big men—Woodward, Bell, Awl, Butler, Brigham, Kirkbride, Stribling, Ray, McFarland. These were men of rare abilities, loftiness of purpose, and enthusiasm. Their very enthusiasm, however, carried them into a competition that proved in the long run harmful. "Before each of them stood the stimulating and provocative precedent of erroneous percentages, and around each of them was the competitive ability of his colleagues in the specialty. It is no cause for marvel that under these circumstances a public opinion was formed upon the curability of insanity too favorable to be sustained by the experience of the future. This opinion was enunciated by a few superintendents at an early date, but considered as an established idea in the minds of the people, it was the fruitage of the decennium in question more than of any other in the whole history of the past; and thenceforward it has very generally been claimed that of all cases of insanity of less duration than one year, from 75 to 90% are susceptible of cure. For more than forty years with respect to a few, and more than thirty years in respect to many, this has been the shibboleth of the superintendents of hospitals and of other writers upon the subject of mental alienation; and especially has it been depended upon as one of the crowning arguments in favor of the establishment of new hospitals and the enlargement of old ones, and of appeals to hesitating and reluctant legislatures for additional appropriations of money for the completion of unfinished ones, for which the purse of the Commonwealth has already been taxed beyond the bounds of reason and of patient endurance."<sup>11</sup>

The first annual report of the Worcester Lunatic Hospital states that of 25 recent cases, 12 had been discharged cured. The second report gives the total per cent. cured as 55.75; old cases cured, 20.5; recent cases, 82.25. The third report gives 82.50% of recent cases cured. In 1840, Dr. Woodward prepared a table which showed that 88% of those who had been insane less than one year were cured, 57% of those insane from one to two years, 37% of those insane from two to five years, and 11% of those insane from five to ten years. This table was used by Waterson in his "Report on the Condition of the Insane in Massachusetts in 1843," as an argument urging provision for greater facilities at Worcester,<sup>12</sup> and eleven years later, in the report of the commission appointed to report on insanity and idiocy in Massachusetts,<sup>13</sup> the statement is still made that if the disease be submitted to proper remedial measures, three-fourths or nine-tenths may be restored, and this

proportion of the patients made again self-supporting members of society. Other hospitals throughout the country were making the same favorable reports. In 1841, Pliny Earle, later superintendent of the Northampton State Hospital, compiled the following table from the reports of the various hospitals:<sup>14</sup>

Asylum.	Time.	Percentage of Cures in Recent Cases.
Dr. Burrows'		91.32
Vermont State	3 years	80
Vermont State	1840	88.20
Massachusetts State	1833-40	87.20
Massachusetts State	In 1840	91.25
Ohio State	1839-40	85.50
Bloomington	In 1839	83.87
Retreat, Conn.	6 years	75.85
Retreat, Conn.	4 years	91.60
Average, 87.10		

There is no doubt that the superintendents in publishing such figures intended to be honest both with themselves and with the public. The error lay in the method of computation. The percentage of cures was based, not upon the number of patients admitted, but upon the number discharged, so that a hospital having received a hundred patients during the year, and having discharged 24, of whom 12 were cured, reported a percentage of 50 instead of a percentage of 12. A further mistake was made in counting the number of cases discharged instead of the number of patients. Six recoveries might represent but one person, admitted and discharged six different times during the year. In one hospital, one woman was reported recovered nine times in two years; in another, five persons 32 times; in a New York hospital, "for one woman, 46 recoveries were reported in the course of her life, and she died upon her 59th admission."<sup>15</sup>

Encouraged by the hope created by the figures given above, legislatures all over the country were quick to build hospitals, hospitals built were soon filled to overflowing, and additions or new hospitals were erected. During this period of confidence and expectation when the hospitals enjoyed the enthusiastic support of the community (1833-1858) the Worcester Lunatic Hospital was twice enlarged (1835, 1843); the Boston Lunatic Hospital (1836), the Taunton (1854), and Northampton Hospitals (1858) were built. So great were the demands made upon the hospitals that the superintendents soon became engrossed in the many detailed problems of hospital management. At the formation of the Association of Medical Superintendents of American Institutions for the Insane, in 1844, sixteen committees were appointed, only five of which pertained in any way to medical subjects, and one of these was on the "Moral Treatment of the Insane." The papers read at the meetings of the Association were largely upon subjects of hospital management, such as, "Proper Size of a Hospital," "Dietary," "Building," "Proper



Number of Patients to an Institution," "Relative Value of Different Kinds of Fuel for Heating Purposes." In the early meetings of the Association, little or no mention is made of legal matters, but later (1863-69), stung by adverse criticism, the Association found it necessary to devote a great deal of its time to the consideration of this subject. That the views of even these leaders of psychiatry were still tinged with metaphysical conceptions, even though they were urging the physical view, is evidenced in the causes of insanity assigned by them: "Indulgence in temper," "mortified pride," "agitation on the approach of matrimony," "metaphysical hair-splitting," "predisposition excited by novel reading," "the complete gratification of every wish of the heart." Another cause that is of interest today, although not a metaphysical one, is "changes from ordinary to vegetable and abstemious diet."<sup>18</sup>

The superintendents in the early days were autocrats. This is not surprising in view of the fact that at that time all physicians were more or less autocratic. Unlike the present day—when any person who has reached the high school age apparently has a right to opinions upon medical topics, and when there are almost as many views upon medical subjects as there are persons in the community—the physician was the only person in the community who was supposed to understand medical matters. When he took charge of a case he took command. He expected his judgment to be taken, and his directions to be obeyed. The superintendents were medical men, and medical men primarily, and they naturally felt that they alone should know what was best for their patients. They resented interference in the care of their public patients as they would have resented it in the management of private cases. This attitude was accepted by the public without question at first, but later came to be resented. One of the principal methods of treatment used at that time was the so-called "moral" treatment, an "entire change of surroundings, whereby all existing trains of associations are broken and the mind is introduced to new persons, new things and new scenes."<sup>19</sup> In carrying out this plan of treatment, correspondence and visits of friends and relatives were frequently denied. The motives for such treatment were misunderstood, and further antagonism was aroused.

During the twenty years just discussed, the hospitals have had little or no opposition. It was becoming apparent, however, by the end of this period that the hopes held out in the beginning were not being fulfilled. It had been found that insanity was not so easily cured as had been supposed; that many of those who had been pronounced cured in the early beginnings had sooner or later become again insane; that aside from what had been accomplished from a humanitarian point of view, little had been accomplished of permanent value. The high hopes of 1833

were dashed by 1853, and the reaction that might have been expected, augmented by the ill-feeling that had developed as the result of the autocratic attitude of the superintendents, and the misunderstanding that had arisen from the isolation of the patients while being given "moral treatment," set in. Discontent and suspicion began to take the place of confidence and enthusiasm. This restlessness is noted in the legislation. Although there had been practically no change in the legislation for twenty years (1833-1853) in the ten years from 1853 to 1863, the method of procedure in insane cases is changed five different times.\* The most noteworthy change was made in 1862, when the phrase in the early law, "so furiously mad as to render it manifestly dangerous to the peace and safety of the community that such lunatic should continue at large," was changed to read, "any insane person who in their opinion is a proper subject for treatment and custody." The law further provided that "in all cases the evidence and certificate of at least two reputable physicians shall be required to establish the fact of insanity."

This law was the first bolt, as it were, driven into the doors of the hospital, making more difficult their inward swing. From the opening of the McLean Hospital until the day this act was approved—a period of 44 years—admission to the hospitals had been without formality for those who desired admission or whose friends desired admission for them. The number thus admitted varied from year to year, depending upon the number of vacancies at the hospitals. The law required the hospital to admit all regularly committed to it as "dangerously mad," and the number of those commitments frequently left little room for voluntary, or, as they later came to be called, "bond" patients. Dr. Woodward drew attention to this repeatedly in his reports. In 1836, so many patients had been sent by the courts that only eight private patients could be admitted. He complained that chronic, incurable patients, at times idiotic and imbecile persons, not "dangerously mad" were being sent to the hospital, filling it up, crowding out the more hopeful early voluntary cases, and thus defeating an important purpose of the hospital. On one occasion he suggested that the trustees be given power to refuse admission to committed cases when the hospital was full, in order to obviate the necessity of discharging voluntary patients before they were fully recovered.<sup>19</sup>

And one is privileged to wonder if this abuse of the law and of the hospital was not in his mind when he urged that in certain cases the "furiously mad" and "dangerous" condition of a patient be determined by jury.

The effect of the law of 1862 was soon felt. Dr. Bemis, the superintendent, in his report for 1865,<sup>19</sup> comments as follows:—

\* Acts of 1853, Chap. 19; Acts of 1854, Chap. 108; G. S. (1860) Chap. 73, Sect. 8; Acts of 1860, Chap. 73, Sect. 10; Acts of 1862, Chap. 223, Sect. 3.

"The recent laws regarding the signing of certificates of lunacy by physicians have operated in an unfavorable manner upon the admission of a few patients into the hospital, and must prevent the early admission of patients afflicted with certain forms of mental disease. The necessity for two physicians to testify to some definite fact which is of itself sufficient to prove insanity, is easily fulfilled in cases of acute mania, when the mind of the patient is completely absorbed in his present feelings and impulses, and has neither power nor inclination to exercise caution. In other forms of insanity, however, equally destructive in the end to all the reasoning and controlling powers of the mind, proof is not so readily obtained; the evidence is cumulative, and the patient retains much of his capacity for concealing symptoms and eluding the inquiries of his physician, and often refuses altogether to see a medical man. In this manner the patient escapes the treatment calculated to remove his disease, until it has become incurable. Sometimes a well meant but mistaken friendship takes such a direction and exercises such an influence as to prevent the admission of the patient; or if it does not prevent admission, so disturbs the relation existing between patient and the hospital as to retard recovery and promote disorder and dissatisfaction. This difficulty is the source of great suffering to many families in this Commonwealth, who are obliged to bear the burden and anxiety consequent upon the care of some insane member, until the disease becomes continuous and incurable. Hospitals were undoubtedly created and endowed for the public good, and to answer a want felt by the community. Let the laws controlling admission to their wards be so humanely framed as to open their doors to any diseased member of society, and let the benefits, if any, be conferred alike upon every grade of mental suffering. Establish commissions for investigation, if necessary, guard them with the most zealous care; but while they are hospitals, make them also asylums, to which every sufferer may flee for comfort and help, or not longer enact laws which attach to the character and conduct of a residence in a hospital for the insane the stigma of prison life and discipline. Surround them with the most generous safeguards. Endow them with every facility for treatment and every comfort and convenience for their inmates. And by giving a generous impulse to public opinion, already favorable, assist in their elevation." The irritation that is detected in a part of this paragraph from Dr. Bemis's report is evidence of the pressure of adverse criticism that the hospitals were beginning to feel.

By 1863, the feeling had become sufficiently strong to force the passage of a resolution directing the governor and council to appoint a commission "to examine what changes, if any, are necessary in the laws regarding insane persons."<sup>6</sup> The commissioners appointed,—Josiah

Quincy, Jr., Alfred Hitchcock, M.D., and Horatio R. Storer, M.D.,—made a report<sup>7</sup> wholly favorable to the hospitals, but the defense of the hospitals that the commissioners felt it necessary to make speaks plainly of the change in feeling that had taken place in twenty years. "Are patients wrongfully detained in insane asylums?" is the question the commission first finds it necessary to answer. "It has been thought," says their report, "that there is a possibility that two physicians may be found who, either in ignorance of the varying and deceptive symptoms of the particular disease, or through interested motives, may certify to insanity when ungoverned passions or jealousy only render a removal from the family circle desirable, and that superintendents might be bribed to keep the person in confinement." The commissioners reported that they had found no such case, and that the character and interests of superintendents made such a contingency improbable. They found it necessary to say further: "It is the opinion that the care of the Massachusetts hospitals for the insane is, at the present moment, in honest hands. . . Too little allowance seems hitherto to have been made for the excessively delicate and responsible position here occupied by Trustees and Superintendents, who, if worthy of appointment to their posts, should also be thought worthy of confidence and trust."

The popular feeling that was beginning to gather at the time is still more clearly shown in the statement that "it has been suggested that so-called 'protectors' of the insane be appointed to have no connection with any hospital, either as officer or trustee, who should have authority at certain or at all times to visit these institutions and examine the patients in general, or particular patients, and decide the question of the propriety of their retention; and by special statute, that patients should from time to time be allowed to write letters to their friends and others." The commission replied that these "protectors" could be no more depended upon than the trustees and "cannot be supposed to be such judges of insanity as those who have made the disease a study and who have opportunity to observe the patients in question from day to day." The commission, among other things, recommended a commission in lunacy, license for private hospitals, requirement for the detention of any person alleged insane, the certificate of two responsible physicians and the abolition of commitment by judges save in criminal cases.

Following the report of this commission to the legislature, in 1864, a law was passed providing for the licensing of private hospitals.<sup>8</sup> Favorable to the hospitals as was the report of the commission, the public feeling was such that the legislature felt it necessary to pass a law providing that "On petition under oath to any Judge of the Supreme Judicial Court, setting forth that the petitioner believes that some person confined as insane in any hospital or other authorized

<sup>6</sup> Acts of 1864, Chap. 288, Sect. 8, 9.

<sup>7</sup> Acts of 1864, Chap. 288.

<sup>8</sup> Acts of 1865, Chap. 81.

place for the treatment or restraint of insane persons, is not insane, and is unjustly deprived of his liberty, the Judge may, in his discretion, appoint three commissioners to inquire into the alleged insanity of the person so confined."<sup>†</sup>

Continued and growing discontent with the hospitals is shown in the legislation of the next ten years (1864-1874). Changes in legal proceeding or antagonistic legislation directed at the hospitals or their officers was passed five different times in this period.<sup>‡</sup> A feeling that persons were detained in hospitals and driven mad by their associates, developed rapidly and found expression in a commission appointed in 1874 to report "what alteration of or addition to the laws are necessary to guard the rights of the insane; what improvement may be made in the rules of the asylums touching attendance, general treatment of patients, and freedom of correspondence, and add all suggestions as their investigations may prove to be necessary. . . to guard and aid, etc. . ."<sup>§</sup> The two commissioners, Nathan Allen and Wendell Phillips, made separate reports.<sup>||</sup> Each found grave danger to personal liberty in the methods of commitment then in vogue. Allen notes "that there has grown up and existed for some time an antagonism of feeling and interest between hospitals, the superintendents and trustees as a body, and the general public." He quotes one trustee as saying, "It seems as if the public believed that every man connected in any way with a hospital for the insane had entered into a conspiracy to deprive the patients of all of their rights and to do violence to all the relations of life." The prejudice, he says, springs from an impression that the managers of hospitals are unwilling to discharge patients when they have recovered. As to the officers themselves, he says: "While they (superintendents, officers and trustees) have their rights, which should be respected and properly treated, they do not own the institutions, neither are the latter run for their emolument. While their opinions and counsels come largely into account and they have a controlling voice in managing the hospitals, there are other parties, inside and outside, who have rights therein, and whose opinions are entitled to consideration. The claim and interest of these latter parties are vastly greater and more important than those of the former."

Phillips reports that the present methods are wholly wrong and dangerous and liable to great abuse. He doubts if a physician should be applied to in any case. Samuel E. Sewall, whose letter to the commissioners is incorporated in their report, is even more emphatic in his denunciation of the system, stating that it is based upon the false principle "that personal liberty is of little consequence," and urges that the question of an individual's sanity should be left with the judges.

The senate committee on public charitable institutions, to which the report was referred, reported<sup>\*\*</sup> that it did not think it expedient to recommend any legislation in accordance with the suggestion of the commission. It further stated that "many of the complaints brought to the notice of the commission were trivial, some more serious, but taken care of by Trustees, and that, considering the large number of persons dealt with, the complaints were comparatively few." The members asserted also their confidence in the superintendents and trustees.

This report marks the high water mark of ill-feeling and distrust. The tide turns. Until 1879, there was no new legislation affecting the status of patients, and in 1882 a period of constructive legislation began, which in the thirty-three years that have followed has made Massachusetts a leader in enlightened legislation dealing with the care and treatment of those suffering from mental disease.

During these years there have been other forces at work, and if ill-feeling and distrust reached its culmination in 1874, these new forces began to find expression about 1882. There were several tributaries to this stream. It may be said to have started with the abolition of the theory of demoniacal possession; to have been augmented by the work of Pinel in France, the Tukes and Connolly of England, who demonstrated that chains and cages and other forms of restraint were unnecessary in the treatment of the insane; to have been helped by the teaching that insanity is curable, although as we have seen, this hope was greatly exaggerated and led to a degree of harm; and finally the "general acceptance of the somatic and the rejection of the psychic theory of insanity by establishing psychology on the basis of physiology and pathology—a scientific movement anticipated by John Hunter, begun by Bichot and Esquirol, carried out by Griesenger and Virchow."<sup>|||</sup> The researches into pathology, anatomy, physiology and psychology, and later those into bacteriology and psycho- and neuro-pathology, have brought the question of insanity from the cloudy mysticism of metaphysics into the light of scientific conceptions, and established it as a disease among other diseases, and its sufferers patients to be treated on the same general basis as other patients. This new point of view is reflected in the legislation and thought of the present day. As has been mentioned, it first found expression in 1882 with the passage of the law<sup>\*</sup> restoring voluntary admission to the state hospitals, and has found expression since in the Emergency Act, the Observation Law, and finally in the Boston Police Law, the Seven-Day Temporary Care Law, and the establishment of a psychopathic hospital for the care of early cases of mental disease and for research into the causes of mental disease and the means of prevention.

Massachusetts has six laws providing for the

<sup>†</sup> Acts of 1864, Chap. 288; Acts of 1865, Chap. 268; Acts of 1867, Chap. 255; Acts of 1871, Chap. 321, Sect. 1; Acts of 1874, Chap. 265.

<sup>‡</sup> Acts of 1874, Chap. 363, Sect. 2.

<sup>\*</sup> Acts of 1881, Chap. 272, Sect. 7.

temporary care of insane persons: that for the apprehension of an alleged insane person, (Sec. 34, Chap. 504, Acts 1909), the Emergency Law (Sec. 42, Chap. 504, Acts 1909), the Observation Law (Sec. 43, Chap. 504, Acts 1909), the Boston Police Law (Chap. 307, Acts 1911), the Seven-Day Temporary Care Law (Chap. 395, Acts 1911), and the Voluntary Law (Sec. 42, Chap. 504, Acts 1909.) Of these six laws, four provide care without the necessity of court action. And it is in this that their great significance lies. This freer access to the hospitals seems like a new development. And for this generation it is a new development. As a matter of fact, however, it is but getting back to the fundamental conceptions of a hundred years ago. It has been pointed out how in the beginning access to the hospitals was free. Patients needing treatment could receive it without application to the courts. How for many years this continued, but how, through a growing prejudice and misunderstanding, due to the false hopes created in the minds of the people by superintendents who honestly entertained these hopes themselves; through the distrust which arose because friends did not sufficiently understand the object in isolating patients; through the fear that developed that individuals were being improperly confined, and that personal liberty was being violated, regulations pertaining to the admission of patients to the hospitals became more and more rigorous, until the time came when there was an almost insurmountable legal barrier about the hospitals. A medical matter became a legal matter. A judge who would hesitate to diagnose a case of heart disease exhibited no hesitancy in making a diagnosis of mental disease. And no matter what might be the opinion of some half dozen earnest and conscientious students of mental disease, the lay opinion of the judge decided the diagnosis. Happily this stage is being passed. It was well to have gone through it. The medical man, trained to note the physical and pathological aspects of the problems presented by his patients, and probably inclined to be a little careless of other considerations, has been taught that his patients do present other problems; that he is not a law unto himself, and that the personal liberties of his patients must be zealously guarded. The member of the bar, on the other hand, properly jealous of any violation of personal rights, has come to realize from the serious results that have followed upon unfortunate decisions, that the problem is after all a medical one, and one that only careful students of such conditions can hope properly to solve.

Considering the uncertainty in regard to the true nature of mental disease, the metaphysical and theological mysticism in which it was a generation ago enwrapped, it is not surprising that all this misunderstanding should have arisen. But as we have seen, the researches of the last twenty-five years have dispelled this mysticism;

have placed mental disease solidly in the ranks with other diseases; and have established the sufferers from such disease as patients, to be treated and cared for as patients. This conception is making it clear that an individual bereft of his reason has rights as an individual that must be protected, but that in protecting his rights as an individual we must not forget that he has rights as a patient, and that the hope of soon regaining his rights as an individual may largely depend upon the consideration that is given at a critical time his rights as a patient.

The Voluntary Admission Law provides that any person desiring admission to a hospital for the insane for the purpose of treatment may be admitted on his own application, providing he is sufficiently clear mentally to understand the nature of his act. The law further provides that no voluntary patient may be detained in a hospital longer than three days after that patient has given notice in writing that he desires to be discharged. Originally only those persons able to pay for the expense of their care and treatment could be admitted under this law, but in 1906 the act was amended so as to include all persons needing treatment. In an endeavor to see how generally this law has been used, Southard<sup>24</sup> has gathered statistics of admissions under it since 1895. From 1895 to 1899, 405 patients were admitted under this law to the state hospitals, including the McLean Hospital. From 1900 to 1904 there were 520. In other words, from 1895 to 1904 this act served in about a hundred cases a year. Beginning with 1906 there is a gradual increase, as shown in the following figures:—

Year.	Total	Vol.	%
1906.....	2670	125	5
1907.....	3022	156	5
1908.....	3195	195	6
1909.....	3066	185	6
1910.....	3254	200	6
1911.....	3207	237	7
1912.....	3250	282	8
1913.....	4061	636	16

Since 1895, then, 5401 patients have been able to receive treatment in our state hospitals under this act without formal process of law. The law serves particularly those individuals who fear that they are becoming insane and wish advice and treatment. Many of these are psychoneurotic patients, who are not insane, but who much need proper and expert advice in order that they may successfully readjust themselves; some are patients in the early stages of mental disease and therefore greatly in need of care. Others who submit themselves under this law are early or mild dementia praecox cases, early depressions, and more frequently than would be supposed, early cases of general paresis. Eversole,<sup>25</sup> in a study of 389 voluntary admissions at the Psychopathic Hospital in 1913 found that 101 had been diagnosed "not insane," and 288 "insane." Of the 288 insane patients, 31 were cases of general paresis, and 66 cases of dementia praecox. None of the psychoneurotic patients, few of those suf-



fering from the earlier manifestations of mental disease, many of the early praecox cases, mild depressions, and cases of early general paresis would not be committable in the regular form, and would be unable to obtain treatment except for this law. And when it is considered that every patient suffering from the depressed form of manic-depressive insanity is potentially suicidal, and that every patient in the early stages of general paresis is capable of grave social and economic wrong, the value of such a law to the individual and the community becomes apparent.

The Boston police law, providing that the police of Boston shall bring to the Psychopathic Hospital all persons brought under arrest who appear to be suffering from mental disorder, need not be discussed at length as it applies only to the Boston District. It is of interest to note,<sup>26</sup> however, that of 1523 admissions to the Psychopathic Hospital last year, 426 were admitted under this law. The law is particularly significant in that it provides for these individuals as patients rather than as criminals. The mother who becomes suddenly insane and hurls her baby from a second story window, the man or woman who, suffering from delusions of persecution, endeavors to wreak vengeance on his imagined persecutor, the petty thief or shoplifter with grandiose delusions that she owns an interest in a large department store, the hallucinated individual who is found scouting about the Fenway looking for "the enemy," instead of being taken to jail to be associated with real malefactors until such time as they may be examined and regularly committed (in the summer time probably three or four days), are taken immediately to a hospital where they are understood and properly cared for as sick persons. Although this law is not applicable outside the city of Boston, the same ends could be gained in the outlying districts by a wider use of the seven-day law on the part of police officials and physicians.

The seven-day law is applicable in any part of the state. This law provides that "any physician, member of the board of health, or police officer in any city or town, an agent of the Institutions Registration Department of the City of Boston, or member of the district police, may request the superintendent or manager of any hospital for the insane to receive for a period of seven days and care for any person needing immediate care and treatment because of mental derangement."

This law serves both as an emergency law for use when courts are not in session, or when, for one reason or another, there would be considerable delay in commitment, and as a very useful observation law. The use as an observation law is probably the more general in those hospitals where it is most frequently used. We are getting past the point where we are willing to wait until a depressed patient attempts suicide, a patient suffering from delusions commits homicide, or a patient in an early stage of mental disease

ruins his family financially by foolish ventures, and are coming to see that both society and the individual are best served when these things are prevented. Sudden insanity is a comparatively rare thing. The beginning is usually insidious; for weeks or months before a frank attack the friends and family note that the patient is not "just himself," that his actions and conversation are somewhat peculiar or unusual. The patient himself is frequently puzzled, does not understand himself and wonders what may be the matter with him. In self-defense, however, he often asserts, if questioned, that there is nothing wrong with him. The family physician, if called, notes the peculiarities, has a feeling that the patient is "not just right," but does not feel that he can say that the patient is insane, and decides to wait for further developments. These developments come only too frequently in the form of some act that shocks not only the physician and family, but the community. Scarcely a day goes by that the newspapers do not carry one or more stories of suicide in fits of depression, or homicides by insane patients, or both. The people of Boston were recently shocked when they read in their morning papers that during the night a well-known and respected young man had murdered his wife and three children and had then committed suicide. The family physician had been observing the young man for several weeks. "had a feeling" there was something wrong with him, and had said to the wife that if he did not get better soon, he would send him to a hospital for observation. While the physician was waiting, the young man took his case into his own hands. Fortunately, accidents of this magnitude are not frequent, but the case is typical of its kind. And it is in such cases that the seven-day law can be used to advantage. In using the seven-day law it is not necessary to assert that the patient is insane; there is reason to believe that the patient is not right mentally, and in order to obtain a diagnosis and proper treatment and advice as early as possible he is sent to the hospital, where such advice and treatment may be received. The abuse of this law lies in physicians sending to the hospitals under its provisions, frankly insane cases about whose mental condition there is no doubt. Such cases should be regularly committed, as no advantage accrues to the patient through such period of observation, while the temporary care machinery of the hospital is liable to be clogged and made less efficient by any appreciable number of such cases.

Experience demonstrated that seven days was frequently not sufficient time in which to determine the patient's mental condition, and the time has therefore been increased to ten days by the present legislature.\* This will be sufficient in the great majority of cases. Some cases, however, require weeks rather than days, and in such the voluntary law and the law providing

\* Acts of 1915, Chap. 174.

TABLE I.—TEMPORARY CARE.\*

	1909	1910	1911	1912	1913	1914
1. Sect. 42, Chap. 504, Acts 1909, Emergency.....	133	87	48	15	24	106
2. Sect. 43, Chap. 504, Acts 1909, Observation by Court...	5	19	47	64	83	152
3. Sect. 34, Chap. 504, Acts 1909, Apprehension alleged insane			5	7	11	18
4. Sect. 44, Chap. 504, Acts 1909, Temporary Care.....	2	2	33	3		
5. Sect. 45, Chap. 504, Acts 1909, Voluntary.....	186	200	359	414	788	931
6. Chap. 307, Acts 1910, Temporary Care, B. S. H. Police.		129	261	344	403	436
7. Chap. 395, Acts 1911, Seven-Day Temporary Care*.....			92	416	897	1400
Total temporary care.....	325	437	845	1263	2206	3043
Total admitted without court action.....	187	331	745	1177	2088	2767
Cared for without action by court.....			387	577	1016	1512
Per cent. never requiring commitment.....			51.91	49.02	48.65	54.64

\* Replaced in 1911 by No. 7, the seven-day temporary care law (Chap. 395, Acts of 1911) which has in turn been replaced by Chap. 174, Acts of 1915, increasing the time limit from seven to ten days.

court commitment for a period of observation, usually 30 to 60 days, complements the temporary care law.

A study of the temporary and voluntary care statistics in the state reveals some interesting facts.

Table I shows the number of patients admitted to the Massachusetts hospitals for temporary care since 1909. The number has grown from 325 in 1909 to 3043 in 1914. The laws designated as 1, 2, and 3 require action by courts. Admission under 4, 5, 6 and 7 is informal and without court action.

The number of patients admitted under the latter group has grown from 187 in 1909 to 2767 in 1914. Since 1909, 7295 patients have been able to receive treatment in the hospitals without formal application to the courts.

In 1914, of the 2767 patients admitted without court action, 1128 were discharged without commitment, 34 died before commitment, 235 signed voluntary requests and 115 voluntary patients continued their stay in the voluntary status, no commitment being considered necessary. Thus 1512 persons were able to secure the benefits of treatment in the hospitals for the insane without the delays, the legal exactions and the semi-publicity that comes with a procedure before a judge. This number, 1512, represents 54.64% of the patients admitted informally. In 1913 the number was 1916, or 48.65%; in 1912, 577, or 49.02%; in 1911, 487, or 51.91%. Since 1911, 3492 patients have found it possible to be admitted to the hospitals, to receive treatment and to be discharged without formal procedure.

Tables II and III show the distribution of the cases discussed under Table I.

TABLE II.—TEMPORARY-CARE CASES, 1912.\*\*

	Vol.	Emergency.	Temp. Care.	Total.
Boston .....	93	10	545	648
Westboro ...	58	3	44	105
Danvers ....	22	0	68	85
Taunton ....	7	0	50	57
Worcester ...	12	2	42	56
Northampton.	19	0	34	53
McLean ....	71	0	14	85

It is to be noted that the great preponderance of cases have been admitted to the Boston State Hospital, Psychopathic Department.

In 1912 (Table II) the Psychopathic Hospital received 648 temporary care cases. The other six hospitals of the state combined (including the McLean Hospital) received but 441. There was a difference of 543 cases between the number received at the Psychopathic Hospital and the number received at the Westboro State Hospital, second highest on the list.

TABLE III.—TEMPORARY CARE CASES, 1913.\*\*

	Vol.	Emergency.	Temp. Care.	Total.
Boston .....	448	18	623	1094
Danvers ....	25	0	80	105
Westboro ...	56	0	42	98
Taunton ....	5	0	77	82
Northampton.	22	0	50	72
Worcester ...	6	2	50	58
McLean ....	74	1	15	90

The same disparity is noted in the figures for 1913 (Table III). While the number of temporary care cases at the Psychopathic Hospital increased from 648 to 1094, the increase in all the other hospitals combined was but 64. The second highest number for any one hospital (Danvers State Hospital) was the same as in 1912, 105 cases. There were 260 more voluntary cases admitted to the Psychopathic Hospital

\* Chap. 307, Acts of 1910 is omitted from consideration in this table as it is not applicable outside of the City of Boston.

than to all the other hospitals, and 314 more cases admitted on physicians' certificates.

As the Psychopathic Hospital is located in the most populous district of the state, is easily accessible, and is known as a hospital for the reception of early cases of mental disease, it is to be expected that it will always have the greatest number of temporary care admissions. But it is evident that these advantages cannot account entirely for the very great disproportion in numbers. The comparatively few cases admitted to the outlying hospitals on certificates of physicians for observation and advice would seem to indicate that the physicians in the districts of these hospitals either are not sufficiently familiar with these laws or are not fully aware of the benefits to be gained by their use. While the Psychopathic Hospital is a specialized hospital, organized to care for large numbers of early cases, there is no hospital in the state that is not capable of rendering an excellent service to its district in such cases, if called upon.

Several types of cases that are well cared for under these laws have been indicated. There is also another group of cases to which attention should be called, because it is an important group from the point of view of prevention.

The problem of mental disease has assumed such proportions in this Commonwealth—there were over 21,000 persons treated in our state hospitals last year; new cases are being admitted at a rate of over 3000 a year; over one-quarter of the total expense of the state goes for the care of the mentally deficient—that the only hope of coping with the situation is to attack it from the side of prevention.

In the last ten years, there have been admitted to the Massachusetts state hospitals 3096 patients under 25 years of age.

TABLE IV.—FIRST ADMISSIONS TO STATE HOSPITALS, BELOW 25 YEARS.\*

1904.....	273	1909.....	313
1905.....	281	1910.....	327
1906.....	241	1911.....	310
1907.....	295	1912.....	325
1908.....	257	1913.....	474
1347	Total, 3096	1749	

The majority of these have been cases of manic-depressive insanity and dementia praecox. Of the two, the cases of dementia praecox have no doubt predominated. The real cause of this disease is not yet known. There are those, notably Kraepelin abroad and Southard<sup>22</sup> of this state, who emphasize the somatic nature of the disease. There are others,—Freud abroad, Hoch, Meyer and Jelliffe in this country, who emphasize the psychic origin. We need not enter into that discussion. Two things at least appear evident: (1) that heredity plays an important rôle; that the disease develops upon a background, as it were, of bad heredity; (2) that

undue mental strain is frequently the precipitating cause. Physical strain precipitates the disease in a certain percentage of these cases. The nervous and mental mechanism of these latter individuals is so unstable that without any undue mental strain they go to pieces "on the rocks of puberty," as it were, or at other periods of physical strain. There is little hope of accomplishing much with this class. But if a study were made of the above 3000 young adults, it would be found that a certain fairly large percentage of them had broken down in high school, others in early collegiate years, and still others on a change from a comparatively uncompetitive village or rural life to a competitive existence in a large city. "An ill-directed ambition has stimulated children of psychically poor rural stock to take up intellectual pursuits in the urban centers. Dementia praecox is not an infrequent result," says Christian,<sup>27</sup> writing of conditions in France. Observations in our own hospitals demonstrate the same facts, except that we should place the indictment not only against the "psychically poor rural stock," but psychically poor stock, either rural or urban. "... for the adolescent with some of the hereditary factors already outlined," writes Jelliffe,<sup>28</sup> "it is a fact, the significance of which cannot be controverted, that fatigue is a highly important element in their mental breakdown."

The problem of prevention therefore becomes a problem of avoiding undue strain in susceptible individuals. And this raises the question as to how susceptible individuals may be known. The work of Meyer and Jelliffe on pre-dementia praecox stages, or the early personality study of dementia praecox cases is suggestive in this regard, and to those who feel a responsibility in this matter, I should recommend the study of these papers.<sup>29</sup> It is possible here to go into the subject but briefly. Two types of personality, it would seem, can be distinguished among these individuals, the so-called "shut in" personality, and the precocious. Many of those who come to the hospitals from the schools and colleges have been exceedingly bright students, frequently leaders in their classes, but there has been a restless feverishness about their work, an insatiable appetite for book knowledge and the accumulation of facts. The accumulation of facts gives them a show of brilliance, but the facts they have gathered are ill-judged and poorly synthesized or not synthesized at all. Such rapacious and unstable students should arouse suspicion. The other class presents much the opposite appearance—they are moody, frequently sullen, desire to be left alone, do not mingle with their mates, are day dreamy, inclined to immature philosophizing; prefer "thinking" to "doing"; frequently show unsteadiness of occupation and inefficiency, exhibit morbid interest in their bodies, are faddists in regard to such things as food, bath, exercise, are irritable without cause, sullen when opposed. In other words, these children are frequently the "queer" and "peculiar"

children. Not all dementia praecox cases exhibit these early signs. Bond and Abbot,<sup>30</sup> in a study of the early personality characteristics in dementia praecox and manic-depressive patients, concluded that normal personalities are found fairly frequently in both diseases; that abnormal personalities are much more frequent in dementia praecox; that certain abnormal traits—reticence, peculiarity, precocity—are found in much larger proportions in dementia praecox than in manic-depressive; and that the “shut-in” personality and the tendency to it is found almost exclusively in dementia praecox. Their final conclusion was, however, that not more than half of the dementia praecox cases exhibited these early personality traits. Granting that only half can be thus early differentiated, much room is still left for accomplishment.

If we may hope to prevent the ultimate breakdown of these children as they approach adult life, it is important that the family physician, who knows the family so well, should understand the significance of these early signs of danger ahead, so that where a child of known bad heredity is found exhibiting these traits, advice may be sought as readily and as freely as advice would be sought in a case of suspected tuberculosis. These children, urged on by their mistaken and ambitious parents to pursuits that are beyond them, go to pieces; while, so far as we know, many of these children directed into channels of less strain and competition might live out their entire lives without insanity. Is it not reasonable to hope, therefore, for the time when physicians will be as keen and careful and skilled in detecting the early signs of mental disease as they are now in detecting the early signs of tuberculosis, and when by a closer co-operation between the family, the physician and the hospital, these cases can be studied and the family be given proper advice as to the future safe training of the child? This co-operation is made possible by the present voluntary and temporary care laws.

In conclusion it may be said that the present voluntary and temporary care laws are valuable because:—

1. They tend to express in legal form the modern conceptions of mental disease; and without endangering the personal liberty of any individual,
2. They at the same time emphasize the patient's cause as a patient;
3. They make it possible to provide early treatment, which is the most hopeful treatment;
4. They afford protection to the patient both from himself and from unprincipled members of the community quick to take advantage of his illness;
5. They afford protection to the family and community against the acts of the patient;
6. They obviate in a large number of cases the delays, legal exactions, semi-publicity, and stigma of having been declared insane;

7. They remove the hospitals from the isolation they have suffered in the community and make it possible for them to take their place as hospitals in fact as well as in name, a more integral part of the social fabric;

8. They make possible a wider co-operation between the hospitals and the lay and medical public, which will yield to the Commonwealth which supports them a greater usefulness;

9. And finally, by means of a wider understanding of the more fundamental facts in regard to mental disease on the part of physicians, co-operating with the hospitals, through the more frequent use of these laws it may be possible to prevent certain forms of mental disease.

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# REPORT OF HARVARD UNIVERSITY SERVICE AT THE AMERICAN AMBULANCE, LYCÉE PASTEUR, NEUILLY-SUR-SEINE, FRANCE.

APRIL 1 TO JULY 1, 1915.\*

By ROBERT B. GREENOUGH, M.D., BOSTON.

At the request of the Medical Board of the American Ambulance at Neuilly-sur-Seine, a surgical contingent was organized by the Harvard Medical School, and sent to France to take charge of the so-called University Service of that hospital from April 1st to July 1st, 1915.

The funds needed for the equipment and transportation of this contingent, commonly known as the "Harvard Unit," were generously provided by Mr. William Lindsey of Boston, and the group of seventeen surgeons and nurses arrived in Paris on the morning of April 1st, 1915, and proceeded at once to take charge of the service which had been from January 1st to April 1st, under the care of Dr. G. W. Crile of Cleveland, and the members of the Western Reserve "Unit."

The American Ambulance was established as a military hospital for wounded soldiers, by the staff of the American Hospital of Paris, in September, 1914, and has been generously supported by Americans in Paris and at home. It is directly under the control of the Service de Santé of the French War Department, and is independent of the French, English or American Red Cross Societies.

The Lycée Pasteur, a high school building, still under construction, but nearly completed, in Neuilly, a suburb of Paris, was secured by the War Office and converted into a most excellent war hospital. Mr. Carroll Greenough, as representative of the firm of architects who built the Lycée, was in charge of these and subsequent alterations and improvements.

The Ambulance (the French word for a military hospital) was gradually enlarged until in June, 1915, it contained beds for over 750 patients. Of this number the University Service (Service D) had 190 beds, the rest being divided between three other services as follows: Service A, Dr. C. W. DuBouchet, Surgeon-in-chief; Service B, Dr. Joseph A. Blake; Service C, Dr. Mignon. In addition to these general surgical services special departments were also in operation, as follows: Dental Department, Drs. Hays and Davenport; Throat and Nose Department, Dr. Koenig; Eye Department, Dr. Scarlett; Genito-Urinary Department, Dr. Heitz-Boyer; X-ray Department, Dr. Jougeas; Pathological Department, Dr. Kenneth Taylor.

All of the administrative departments of a modern hospital have been established, such as kitchen, laundry, supply room, apothecary, diet

kitchen, and departments for statistics and surgical dressings and apparatus. There is a competent corps of trained nurses under the Superintendent, Miss Willingale. Many of the nurses have had their training in American or English hospitals, and there is a sufficient force to supply one nurse to every ten patients by day, and one for every forty patients by night. In addition to the trained nurses, and acting as assistants to them, there has been organized a corps of volunteer or auxiliary nurses and orderlies. These volunteers have given most devoted and competent service, and have contributed greatly to the comfort and well-being of the wounded. It is fair to say that without this efficient group of volunteers a much greater number of trained nurses would have been required, and the cost of maintenance of the hospital would have been that much increased.

The University Service was composed of eighteen wards, containing ten or eleven beds, on the third floor of the building. A special operating room and laboratory was arranged for this service on the fourth floor of the north wing, giving excellent light and ample and satisfactory equipment. No surgeon could reasonably ask for more favorable conditions under which to work.

The members of the Harvard University Service which took charge on April 1st, were as follows: Dr. Harvey Cushing, surgeon; Dr. Robert B. Greenough, surgeon and executive officer; Dr. Richard P. Strong, bacteriologist; Dr. Robert B. Osgood, orthopedic surgeon; Dr. Beth Vincent, assistant surgeon; Dr. William M. Boothby, anesthetist; Drs. Fred A. Collier and Elliot C. Cutler, resident surgeons. Drs. Philip D. Wilson, M. N. Smith-Petersen and Lyman G. Barton, Jr., house-officers; Dr. Orville F. Rogers, Jr., medical assistant; Dr. George Benet, laboratory assistant; Misses Edith I. Cox, Geraldine K. Martin, Helen A. Parks and Marion Wilson, operating-room nurses.

About April 10th, Dr. Strong was obliged to leave Paris for Serbia, to take the position of director of the American Red Cross Sanitary Commission, and Drs. Rogers and Benet took over the laboratory work. On May 1st, Dr. Cushing and Dr. Boothby left for home, and on May 28th, Miss Wilson left for England. During a part of the month of April, Dr. Vincent was detached for service at a Red Cross hospital at Chateau-Annel, near Compiègne, to fill an urgent need. During the latter part of June, Dr. Wilson was transferred, temporarily, to Dr. Mignon's service to fill a vacancy in the house staff. With these exceptions the service continued as it started until July 1st.

The functions commonly exercised by the trustees of a hospital were fulfilled by the "ambulance committee" composed of the group of Americans resident in Paris, to whom the American Ambulance owes its existence. Laurence V. Benet, Robert Bacon, L. V. Twyeffort,

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Charles Carroll, Dr. Edmund L. Gros, Dr. Joseph L. Blake, Dr. C. W. DuBouchet, and Capt. Frank H. Mason were among the most active workers on this board. Under this committee were administered also the affairs of the two independent but allied institutions: "Hospital B," a war hospital of 200 beds, established at Juilly, under the financial support of Mrs. H. P. Whitney, and the "Ambulance Corps," an organization of 78 motor ambulances with volunteer drivers, which were assigned in squads of ten to twenty ambulances to work at different portions of the line, as ordered by the War Department, and which used the Lycée Pasteur as a base for equipment and supply. In June, 1915, a further extension of the hospital was also under way in the establishment of a convalescent home at St. Cloud, and the organization of a continuous orthopedic service.

The amount and quality of material for surgical dressings and supplies provided by the Ambulance was adequate for all surgical necessities. The Harvard Unit brought and supplied for its own use such special instruments and materials as would not readily be found in Paris—notably instruments and materials for Dr. Cushing's work, a "Connell" ether anesthesia apparatus, a supply of nitrous oxide and oxygen for anesthesia, orthopedic appliances, and a "Maddox" extension table for the application of plaster dressings to fractures. An estimate was made of the amount of gauze-sponges, pads, dressings and bandages necessary for the three months service, and the cost of the raw materials was contributed by the committee of the American Ambulance in New York. These materials were made up and sterilized by the surgical dressings committee of the Civic Federation of Boston, under Mrs. F. S. Mead, and packed and shipped to Paris in March and April. The first of these supplies reached Paris about April 10th, and from that time all the needs of the University Service were admirably supplied by these dressings. They arrived in excellent condition and in use they proved to have been efficiently sterilized.

A system of triplicate records with a card catalogue index was put in operation on the University Service on April 10th, as soon as the necessary blank forms could be obtained and stenographers employed. One copy of the record remained to be filed in Neuilly. Two copies with duplicate x-rays, charts and photographs have been brought to Boston and deposited in the library of the Harvard Medical School. To assist in the preparation of these records two stenographers and one photographer were employed. Records and notes were dictated daily, and manifold copies were typewritten and filed in envelope folders in the wards, as well as in the record room. For each case discharged from the hospital a special blank form, provided by the French War Department, had to be filled out, giving in brief the nature of the wound, its

treatment and complications, and the condition of the patient at discharge.

The supply of wounded to the American Ambulance was probably as constant as that to any of the French military hospitals, but, of course, varied with the activity of operations at the front. Being a base hospital it drew from a wide section of the front, and during our service cases came to us from as far north as the Franco-Belgian line beyond Ypres, and as far east as Verdun. Under ordinary circumstances a soldier wounded in the trenches has a first-aid dressing with iodine applied at his regimental dressing station. He is then carried or walks back to the "poste de secours," at the point nearest to the front to which ambulances can go. This "poste de secours" is situated either in a bomb-proof dug-out, or in a farm house or other building, and is often under artillery fire. No elaborate surgical interference can be undertaken under these conditions, but emergency dressings and splints are applied, and a tag is filled out giving the name and corps of the soldier, a provisional diagnosis, and a statement of whether he has had, or is to receive, a prophylactic dose of anti-tetanic serum.

The patient is then moved in a cart, or, if possible, in an ambulance back to the "ambulance de première ligne," just out of artillery range. Here a surgeon investigates the wound, gives a dose of anti-tetanic serum if necessary, and operates on such cases as require imperative interference, as for hemorrhage or abdominal injuries. The equipment is necessarily inadequate, and the majority of cases pass rapidly through the first line hospital to the evacuation hospital on the railway line. Here they are again inspected, urgent operations are performed, and the cases placed as soon as possible on the "sanitary train" and sent to Paris, or to some other centre of distribution. The sanitary trains are admirably fitted out with stretchers for the "grandes blessés" and seats for the "petits blessés" or ambulatory cases. A corps of surgeons and orderlies is assigned to each train, and the cars are used for no other purposes. By each of these trains 250 to 300 wounded can be transported rapidly to the base. In Paris the trains arrive at La Chapelle, the freight station of the Gare du Nord. Here a long freight shed has been converted to hospital purposes, the track is curtained off, and portable houses have been erected on the platform for the medical officers, and the different classes of wounded. The shed is warmed with open braziers, and bright and cheerful with potted plants. A squad of Red Cross nurses is at hand to supply food and drink, and to assist in the adjustment of dressings, and in the distribution of the wounded. Outside, behind a barrier, the ambulances from the different Paris hospitals are drawn up, often as many as one hundred, to meet one train, and the ambulance drivers wait in a separate enclosure to get their assignment of wounded.

As fast as the wounded are brought off the train they are assigned to the different hospitals according to the day's list of vacant beds. Some room for selection is possible on account of the nature of the hospitals. German prisoners are sent to the regular military hospitals, such as Val-de-Grâce, where they can be under guard. Insane patients are also sent to a special hospital. Medical cases are sent to one institution, and grave surgical cases to others. In this distribution the American Ambulance receives due recognition, and its wards are kept practically full with the graver surgical cases. During Dr. Cushing's stay, a special effort was made to send cerebral cases to the Ambulance.

The sanitary trains arrived in Paris at all hours of the day or night, as the exigencies of traffic to and from the front permitted. The motor ambulances would then bring the wounded to the hospital. The receiving clerk and the surgeon of the day would examine the patients and assign them to the wards. Each of the four services receives all of the cases coming to the Ambulance every fourth day in rotation, but when the hospital was nearly full, cases might be sent to any service where there were vacant beds. The largest number of admissions to the University Service in any one twenty-four hour period was thirty-three. In the three months' service 295 new cases were allotted to us,—an average of over three cases a day. On April 1 the University Service had 146 patients. During April 138 new cases were admitted and 131 discharged. During May 103 cases were admitted and 95 discharged. During June, 54 cases were admitted and 41 discharged. A total of 295 admissions and 267 cases discharged.

Of the total number of 441 cases which at one time or another came under the charge of the Harvard University Service we have 383 records. No records were obtained of 58 cases which were transferred to us by the Western Reserve Unit, but were discharged from the hospital before stenographers had been secured and a permanent system of records established. Forty-seven of this number had been officially discharged from the hospital on April 1, but had not then actually left the building.

Mortality: Of the 441 cases entered on the Harvard University Service, in the three months from April 1 to July 1, 1915, seven died, or 1.6%. The causes of death in these cases were as follows:—

CASE 1924. Bullet wound of spinal cord and chest. Paralysis, bed-sores, exhaustion.

CASE 1946. Bullet wound of intestine. General peritonitis and hemorrhage. Died fifteen minutes after entrance to hospital.

CASE 1671. Shell wound of chest and laceration of lung. Hemo-pneumothorax.

CASE 2146. Compound fracture and gangrene of arm. Gas-bacillus infection. Immediate amputation. Gas-bacillus septicemia.

CASE 1726. Compound fracture of skull: laceration of brain. Meningitis.

CASE 1737. Compound skull fracture by rifle ball; laceration of brain. Erysipelas; meningitis.

CASE 2139. Compound fracture of jaw and cervical vertebrae by shell fragment. Meningitis.

The 383 cases included in the records of the Harvard University Service were divided as follows:

Single wounds.....	217
Two or more wounds.....	101
Amputation wounds.....	4
Sepsis.....	3
Diseases of ears.....	5
Diseases of teeth.....	12
Diseases of eye.....	1
Doubtful diagnosis.....	1
Miscellaneous diseases and injuries without wounds.....	39
Total.....	383

Three hundred and seventeen of the 383 cases received actual wounds by missiles. They were divided as follows:

Rifle ball.....	128
Shrapnel ball.....	31
Shell fragment.....	133
Shell fragment and rifle ball.....	5
Shell fragment and shrapnel.....	1
Doubtful.....	5
Bomb fragments.....	9
Hand-grenade wounds.....	3
Mine explosion.....	1
Revolver ball.....	1
Total.....	317

Of the 66 cases in which no wound produced by a missile existed, the nature of the injury or disease was as follows:—

Falls.....	15
Barbed wire wound.....	1
Bomb, shell and mine explosions.....	10
Crushes.....	3
Miscellaneous diseases and injuries.....	37
Total.....	66

Considerable interest attaches to the question of whether a missile perforates the body and makes a wound of exit, as well as one of entrance, or whether the missile lodges in the tissues. It would be expected that the rifle ball would perforate more frequently, and that shell fragments and shrapnel balls, having a lower velocity, would show more tendency to lodge in the tissues.

Of 154 wounds by bullets 128 were perforating wounds and in 26 the bullet lodged—16.8%.

Of 32 wounds produced by shrapnel balls 17 were perforating and in 15 the missile lodged—46.8%.

Of 161 wounds produced by shell fragments 89 were perforating and in 72 the fragments lodged—44.7%.

Many of the 383 cases included in the records

of the Harvard University Service presented more than one wound, and in many more several different anatomical structures were affected. These different lesions were classified and studied separately, giving data on some 670 instances of special medical or surgical conditions. A brief analysis of these groups of cases is appended.

**Group 1. *Injuries and Diseases of the Skull***—20 cases. These were all compound fractures of the skull, in 15 of which cerebral symptoms developed, and in 5 there were no cerebral symptoms. Two cases were not operated upon; 9 were operated upon in other hospitals, and 9 in the American Ambulance. In 10 cases of skull injury the missile lodged, and in 4 cases the missile was removed by operation—in 2 cases by the use of the electro-magnet. Two cases (No. 1726 and No. 1736) died; the rest recovered.

**Group 2. *Injuries of the Spinal Cord***—7 cases. In 6 cases there was injury by missile to the vertebral column. One case was merely concussion. There were 4 operations performed, and in 2 cases a hematomyelia improved without operation. There were 2 deaths—No. 1224 of toxemia and No. 2139 of meningitis.

**Group 3. *Injuries of the Head and Face***—14 cases. Superficial wounds of the face, 8; scalp wounds, 4; 1 case of wound of the orbit and antrum, and 1 case of fracture of the teeth. There were no fatalities among these cases.

**Group 4. *Fractures of the Upper and Lower Jaw***—63 cases. Injuries of this region appear to be extremely common under present conditions of trench warfare. Practically all of these cases were treated in the Dental Department, and seen by the surgical staff only in consultation. The work of the dentists in these cases is one of the remarkable features of the medical work of the Ambulance. Interdental splints, crown and bridge work, wiring of teeth, with and without metal splints, massage, and the use of inclined planes are some of the methods used to bring about reduction of misplaced teeth and alignment of the jaws. Six of these cases were returned to the University Service for operation for the repair of defects of the lips and mouth. One case had a bone graft (rib) placed to fill a defect in fracture of the lower jaw.

**Group 5. *Fractures***. Compound fractures with more or less sepsis were perhaps the most important and difficult cases of the Service. There were 121 compound fractures and 19 closed fractures. Omitting 5 cases of compound fracture of the phalanges, there were 13 cases in which amputation of an extremity was necessary. Five were amputated in other hospitals before entrance to the Ambulance; 2 were amputated on the University Service before the Harvard Unit came on duty. The 6 amputations performed on the Harvard Service were as follows: For secondary hemorrhage, 2 cases; for gas-bacillus infection, 1 case; for sepsis of the knee and ankle joint, 3 cases. One of these cases—a gas-bacillus infection—died of septi-

cemia, although the amputation was performed immediately on entrance. There were no other fatal cases.

Most of these compound fractures were septic at entrance, and the general policy of treatment adopted involved the investigation, under an anesthetic, of every compound fracture, with removal of foreign bodies, such as shell fragments and clothing, and of detached bone fragments. There were only three cases of compound fracture in which aseptic healing of the wounds of entrance and exit occurred. These were: (1) fracture of the neck of the femur; (2) fracture of the fibula; (3) a fracture of a phalanx.

Of the 19 closed fractures, 2 cases of fracture of the femur, and 3 of fracture of the tibia were operated upon for mal-union and fixation with bone-plates or Parham bands attempted. All of these cases healed by first intention. In one case a plate loosened and there was a partial recurrence of deformity. In the other 4 cases the results were entirely satisfactory.

With the exception of the 6 cases which came to amputation the compound fracture cases made satisfactory progress, and a number were able to do without apparatus on July 1st. Many of the cases, however, were still under treatment with apparatus on that date.

In 42 of the fracture cases neighboring joints were involved—40 compound and 2 closed fractures. In 6 of these cases excision of the joint was performed—4 of the shoulder, and 2 of the hip.

**Group 6. *Injuries of the Chest***—21 cases. In 2 cases only the ribs and soft parts of the chest wall were injured and the pleural cavity was not involved. In 9 the missile passed through the chest cavity, with wounds of entrance and exit, and in 10 the missile lodged. Eleven of the 19 pleural cases developed empyema, and 10 recovered. One case that died (No. 1224) was a spinal paralysis case with death due to bed-sores and exhaustion. One case died of hemorrhage into the pleura from a lacerated lung. Five of the 11 empyema cases were operated upon by rib resection; others had sufficient drainage provided by the original wound, or had healed to a small sinus, when they entered the hospital, and did not require further drainage. In 2 cases the posterior mediastinum was involved.

**Group 7. *Injuries and Diseases of the Abdomen***—13 cases. There were 7 penetrating wounds of the abdomen. One case (No. 1946) died fifteen minutes after entrance to the hospital, of general peritonitis. Two developed fecal fistula, one of which was closed by operation and healed by first intention. Three cases of abscess in the lower abdomen resulted, which were drained. Three cases of sub-acute appendicitis were operated upon, and all healed by first intention. One femoral and one inguinal hernia were also operated upon successfully. There was one case of abdominal contusion which recovered without operation.



Group 8. *Injuries of the Pelvis*—4 cases. One was a simple fracture; the other 3 were perforating wounds, one of which involved the rectum. All of these wounds were drained.

Group 9. *Peripheral Nerve Lesions*—39 cases. Twenty-two of these had accompanying bone lesions. Of the peripheral nerves the musculo-spiral was the most commonly injured. There were 10 cases. The median nerve and the external popliteal nerve were each affected in 5 cases. Twelve operations were performed for peripheral nerve lesions—7 sutures, and 5 exploratory operations for freeing the nerve from scar contraction. All of the wounds healed by first intention, but sufficient time had not elapsed to determine the extent of return of function. Five cases showed improvement of function before July 1.

In addition to operative treatment, massage, electricity and supporting apparatus were used. Supporting or "cock-up" splints were devised by Dr. Osgood for 7 cases of wrist-drop, and special wire splints for 3 cases of toe-drop.

Group 10. *Joint Lesions without Fracture*—13 cases. There were 7 penetrating wounds of joints: 4 of these were of the knee joint; 2 were old cases with continued drainage and ankylosis; 2 were fresh cases in which temporary drainage to the synovial membrane was employed, and these healed without loss of motion. There were 2 cases of lesion of the hip joint in which missiles lodged in the vicinity of the joint and subsequent sepsis invaded the joint. There was one case of temporary drainage of the elbow joint, without loss of motion. There were 6 cases of sprains or synovitis without external wounds, all of which subsided with strappings or plaster, and later massage.

Group 11. *Lesions of Soft Parts—Skin, Muscle, Tendon*. In some cases several missiles (as shell fragments) produced multiple wounds in the same individual. In others one missile produced multiple wounds in the same individual. In one instance eight wounds were produced in one individual by a single rifle ball, viz: right thigh (entrance and exit), penis (entrance and exit), scrotum (entrance and exit), and left thigh (entrance and exit). We have records of 378 wounds in our 383 cases, exclusive of 30 cases of multiple injury in which there were more than five wounds, and an accurate enumeration of them was difficult or impossible. One hundred and twenty-one of the 378 wounds were associated with bone lesions. The remaining 257 were wounds of the skin and soft parts alone. In general all of these wounds were septic.

Cultures: An effort was made to obtain cultures of all fresh open wounds, and cultures were obtained in all cases in which there was the possibility of grave infection. We have records of 132 cultures taken on a hundred different cases. Twenty-eight of these cultures showed anaerobic gas-producing organisms, not to be distinguished from the *Bacillus Aerogenes* Cap-

sulatus of Welch. Other anaerobes were occasionally present, and there were many cultures showing the ordinary pus-producing organisms. A report upon the bacteriological findings of the Service will be made in full by Drs. Rogers and Benet, who were in charge of the laboratory.

The treatment adopted for wounds of the soft parts was in general similar to the treatment of compound fractures. Under an anesthetic a thorough cleansing of the wound was obtained with benzine and iodine on the skin, and sodium hypochlorite for irrigation. Sloughing and damaged tissues were removed, and in the majority of cases drains were inserted. In 3 cases primary suture of an infected wound was attempted, after cleaning, and in 2 of these cases healing by first intention resulted. In 5 cases secondary suture was performed after the case had been in the wards for some days, and in 5 of the 6 the sutures held and the wound healed practically by first intention.

Muscles and tendons were involved in wounds of the soft parts in 55 cases, 43 of which were operated upon for cleansing and drainage. In 17 cases plaster or splints were used for fixation of these wounds, and in 8 cases contractions of muscle occurred, as a result of healing of these wounds,—3 of the ham-string muscles, 3 of the calf muscles, 1 of the biceps of the arm, and 1 of the extensors of the forearm. In 2 cases manipulation under an anesthetic was required, and in 1 an open operation for lengthening the tendo Achillis.

Of the 257 wounds of the skin and soft parts without bone involvement 10 healed aseptically and without interference, and 2 after operative cleansing and suture. The other wounds were all treated with drainage and did not heal "per primam."

Group 13. *Miscellaneous Lesions*—49 cases. A number of injuries and diseases presented themselves which do not fit in the groups which have been above described. Some of these conditions occurred only as intercurrent or complicating diseases. The list is as follows:

Diseases of the teeth and gums.....	12
Diseases of the ear.....	8
1 ruptured drum.....	8
7 otitis media (2 of these required mastoid operations)	
Injuries and diseases of the eye.....	7
Septic processes not due to wounds.....	3
Frost-bite.....	2
Cardiac lesions.....	2
Bronchiectasis.....	2
Syphilis.....	2
Mesenteric tuberculosis.....	1
Chronic ulcer of leg.....	1
Sprain of back.....	1
Burn of neck.....	1
Typhoid fever.....	1
Broncho-pneumonia.....	1
Pneumonia and malaria.....	1
Bronchitis.....	1
Influenza.....	1
Foot deformity.....	1
Doubtful diagnosis.....	1
Total.....	49

There were no deaths in this group of cases.

Group 14. *Medical Work.* The medical work of the Service was conducted by Dr. Orville F. Rogers, Jr. It consisted in large part of chest examinations in cases of wounds of the thorax, in the study of a number of cases of obscure diagnosis, and in the regulation of the diet in cases of general debility, and in cases of jaw injury which interfered with proper mastication. In all, forty-four different morbid conditions were referred to the medical assistant for examination and treatment.

Group 15. *Operations.* There were 210 different cases operated upon in the University Service, and 271 operations were performed. The list is as follows:—

Exploration for compound fractures.....	37
Exploration for foreign bodies.....	22
Incision, cleaning and drainage of septic wounds.....	127
Cranotomy.....	10
Mastoid operation.....	1
Drainage of antrum.....	2
Operations on peripheral nerves.....	4
Laminectomy.....	1
Operations on the chest:	
Aspiration.....	1
Rib resection.....	3
.....	4
Operations on the abdomen:	
Appendectomy.....	3
Hernia.....	2
Closure of fistula.....	1
.....	6
Amputations:	
Finger.....	2
Arm.....	2
Leg.....	2
Thigh.....	2
.....	8
Re-amputation with disarticulation	
(shoulder joint).....	1
Plastic operations on face and jaw.....	14
Plastic operation on tendon.....	1
Plastic operation on bone cavity.....	1
Skin graft.....	1
Secondary suture.....	8
Fixation of closed fracture with bone plates.....	5
Removal of bone plates.....	2
Excision of chronic ulcer.....	1
Manipulation and plaster.....	7
Resection of finger joint.....	1
Resection of shoulder joint.....	3
Resection of hip.....	2
Transfusion.....	2
Total.....	271

In no case of operation in a clean field was there failure to obtain first intention healing.

On Thursday, July 1, 1915, the cases of the Harvard University Service were transferred to the University of Pennsylvania Service, under Dr. J. P. Hutchinson, and the members of the Harvard Unit left Paris that night and sailed on Saturday, July 3rd, from Bordeaux, arriving in Boston Tuesday, July 13.

A number of shell fragments, cartridges, bullets and other missiles were brought back, together with a large number of photographs and the records of the University Service. These have been delivered to the Warren Museum, and will be properly mounted and labeled for teaching

purposes. Lantern slides have been made of the more important photographs.

A more extended report upon the surgical aspects of the work is in preparation and will be published in the fall.

## Original Articles.

### ARTIFICIAL PNEUMOTHORAX.\*

By EDWARD O. OTIS, M.D., BOSTON.

HARDLY any new procedure in medicine or surgery has come into such prominence within the last few years as artificial pneumothorax. The literature upon the subject is now quite enormous—whole issues of medical periodicals have been devoted to it. It was one of the main topics for discussion in the last International Tuberculosis Congress at Rome. An International Artificial Pneumothorax Association has been formed which disseminates literature upon the subject. There is hardly a sanatorium or consumptive hospital in which the operation is not done. Experience and knowledge upon the subject have, therefore, accumulated rapidly, and we are in a position to form a fair estimate of its value from results.

After Forlanini, the pioneer and ardent advocate of this treatment, we are perhaps more indebted to Brauer of Hamburg than to any other single investigator of this form of treatment, for bringing the subject definitely before the medical public which is occupied in the management of pulmonary tuberculosis. There is a wealth of clinical experience in the marvellously minute and painstaking histories of the one hundred cases which he published in 1911, cases extending over a period of five years. We hear much of German efficiency and attention to details in these days. Surely, Brauer's work is an admirable illustration of this Teutonic characteristic, and no one who desires to become familiar with the subject can afford to neglect his work, although his method of operation has now fallen into disuse.

From the extensive evidence at hand from all over the world, no one can now deny the value of artificial pneumothorax in pulmonary tuberculosis when other means fail. In some cases it brings about an arrest of the disease not otherwise attainable; in other cases, a relief from one or more of the distressing symptoms. Its applicability is limited, in my opinion, and it is often unsuccessful. As Balboni well says, "it is an unusual therapeutic measure, the creation of a pathological condition in order to cure or relieve another pathological condition," and is "only to be undertaken after careful consideration of each individual case."

\* Presented in discussion at the meeting of the National Association for the Study and Prevention of Tuberculosis, Seattle, Wash., June 15, 1915.

In general, there is a unanimity of opinion among those of the most experience as to the indications for applying this treatment: extensive unilateral (or chiefly so) progressive or chronic lesions which fail to respond to the ordinary hygienic-dietetic treatment, or to tuberculin. Second: recurring more or less severe hemoptysis which fails to yield to ordinary treatment, or very severe hemorrhage not otherwise controlled, provided, of course, one can be sure from which lung the hemorrhage comes.

All of Brauer's cases, as he says, were those in which the conditions and progress of the disease gave an absolutely unfavorable prognosis. "If you are to judge of the results of the treatment with artificial pneumothorax," says Saugman, "it must at once be understood that this treatment deals with very severely attacked, third stage patients of whom a great part, indeed, most of them, without this treatment would have practically no chance of recovery or healing."

There seems to be some diversity of opinion and practice, however, in regard to the two extremes, the earlier cases and the last stage ones. Pneumothorax therapy is by some recommended for early or incipient cases which appear to have no recuperative power or show no improvement under the ordinary treatment; also in early cases which have no opportunity for the usual open-air treatment; or again, when the "progress toward improvement is particularly slow." At the other extreme, this treatment is employed by many in otherwise hopeless or doomed cases as a last desperate resort whenever compression can be consummated, and occasionally an arrest is obtained.

There seems to be no doubt that the unilateral cases with but little or no infiltration in the other lung, and that inactive, and where there is still a fair amount of resistance, offer the most favorable conditions for this treatment and give the best results. The percentage of such cases which are either arrested or greatly improved is placed as high as forty or fifty per cent. (Floyd).

To assume that if the operation does no good it will do no harm is, I believe, false; for there is always the possibility of pleural shock, gas embolism, subcutaneous emphysema, infection of the pleural cavity, disturbance of the blood supply from displacement of the heart, and a lighting up of the inactive process in the other lung. It is an operation that should only be entered upon advisedly, discreetly and in the fear of these possible dangers. One must also bear in mind that although he may consider the operation a very simple one, to the patient it means an *operation*, with all the dread that the word suggests, and he will not infrequently elect to take his chance without it when it is advised rather than undergo the mental anguish which the fear of an operation produces. This fact again reduces the number of cases to which we can apply the pneumothorax treatment.

A word with regard to the x-ray. The consensus of opinion is, I think, that one is not justified in carrying on the treatment without constant access to the x-ray with a skilled technician. Before beginning the inflation a careful study of the x-ray picture of the lungs should be made and subsequently, both before and after each inflation; only in this way, by ocular evidence, can we be sure that the case is a favorable one for the treatment, and determine its success. Moreover, we can thus avoid many of the dangers incident to it.

As to the apparatus employed, there are almost as many kinds or modifications of one or another kind, as there are operators. The main requisite is to use an instrument with which one is familiar, and which is as simple as the conditions will allow. Whatever the apparatus used, it should have a good manometer which can be easily read, and an arrangement whereby the flow of gas can be readily regulated as to pressure, and be steady. One of the most satisfactory forms of apparatus which has come under my observation is that of Prof. Deneke of St. George's Hospital, Hamburg. In brief, it is made double. Upon one side of an upright standard is a complete arrangement for the injection of nitrogen gas, and on the other side is a replica of the same for the injection of oxygen gas. Prof. Deneke's idea being that greater safety is insured if on the first injection oxygen is used, so that if by any chance the needle may have entered a vessel, the oxygen gas on account of its rapid absorbability will be much less likely to produce gas embolism. By simply turning a stop-cock, nitrogen gas can be substituted for the oxygen gas.

There have also been as many kinds of needles as apparatuses, each operator having his favorite one. Deneke's needle seems to me to have certain advantages, its peculiar characteristics being its extreme simplicity, consisting of a cannula and stylet, the cannula having a less acute angle at its perforating end than the ordinary needle, and is closed at this extremity, the opening being in the side just above the point.

There are many other problems in connection with artificial pneumothorax which could with great interest be discussed if time permitted; such, for example, as the amount of positive pressure permissible in case of adherent pleura, the amount of gas introduced at any one time and the frequency of introduction, the length of time the treatment should be continued, the effect upon the neighboring organs, the contraindications, and the employment of the treatment in recurring pleuritic effusions, bronchiectasis, and abscess.

The scope of artificial pneumothorax is apparently not yet fully determined, but that it has won a permanent place in the treatment of tuberculosis is assured. In the very conservative words of Saugman, "it has fully justified its place in the treatment of some severe cases of

pulmonary tuberculosis and that, by it, recovery sometimes may be obtained when any other treatment would have failed." It is well to bear ever in mind, however, that it does not by any means take the place of the well known measures for increasing and maintaining the resistance, such as fresh air, rest and good and sufficient food, but, like tuberculin, it is an additional aid in certain cases and may save the day.

## ON THE STATE OF THE RESPIRATORY MECHANISM IN PNEUMONIA.

By J. H. MEANS,<sup>1</sup> L. H. NEWBURGH,<sup>2</sup> AND  
W. T. PORTER.<sup>3</sup>

[From the Laboratory of Comparative Physiology in the Harvard Medical School.]\*

### I.

It is known that when an animal breathes through a closed system of tubes, the amount of the carbon dioxide in the inspired air progressively increases. In normal animals the volume of the tidal air, i.e. the volume of the air passing in and out of the chest, increases with the increase in carbon dioxide until the reaction ceases. In our observations, the reaction of normal animals continued usually until the volume of the tidal air was four or five times greater than when the animal breathed only atmospheric air; in our highest observation, the increase was seven-fold, at which point the animal was still reacting. The increase of carbon dioxide in the inspired air is, therefore, a stimulus to the respiratory mechanism, and the state of that mechanism may be measured by determining the ratio of the tidal air (cubic centimetres per minute) to the percentage of carbon dioxide inspired.

It is the object of this investigation to compare this ratio in normal animals with the ratio in animals with pneumonia. The state of the respiratory mechanism in pneumonia will thus be revealed.

### II.

The present experiments were performed upon cats.<sup>4</sup> The percentage increase in the tidal air due to the progressive increase in the carbon dioxide breathed was found to be as follows: (Table I.)

TABLE I.—THE AVERAGE REACTION TO CARBON DIOXIDE IN NORMAL AND PNEUMONIA CATS.

Carbon Dioxide in the In- spired Air.	Increase in Volume of Tidal Air in Normal Cats.	Increase in Volume of Tidal Air in Pneumonia Cats.
Per Cent.	Per Cent.	Per Cent.
1	21	6
2	51	14
3	102	36
4	173	68
5	276	53

It is clear from Table I that the reaction of the respiratory mechanism to carbon dioxide is greatly diminished in pneumonia.

The greatly impaired reaction of the respiratory mechanism in pneumonia is admirably shown also by a comparison of the normal reaction with (a) that of animals moderately ill with pneumonia, and (b) that of animals near death with this disease. When the carbon dioxide in the inspired air rose to three per cent., the volume of the tidal air increased:

In normal animals.....	98%
In animals moderately ill with pneumonia.....	43%
In animals near death with pneumonia.....	7%

Since the volume of the tidal air in animals with pneumonia is often greater than the tidal air in normal animals, it might be supposed that pneumonia animals do not increase their respiration when stimulated by carbon dioxide because they are already breathing as much as they can. That this is not a source of error is demonstrated by comparing the carbon dioxide reaction of animals whose tidal air at the beginning of the observation has in every case approximately the same volume. Following is such a comparison:

When the carbon dioxide in the inspired air was two per cent.:

4 normal cats breathed.....	1223 c.c. per minute
4 pneumonia cats breathed.....	1233 c.c. per minute

Thus the tidal air in both groups was practically equal in volume.

When the carbon dioxide in the inspired air rose to four per cent., the same

4 normal cats breathed.....	2330 c.c. per minute
but the	

4 pneumonia cats breathed.....	1758 c.c. per minute
--------------------------------	----------------------

Thus at two per cent. the pneumonia cats and the normal cats breathed alike, while at four per cent., the pneumonia cats had increased less than half as much as the normal cats.

### III.

#### CONCLUSION.

1. The reaction of the respiratory mechanism to carbon dioxide is greatly diminished in pneumonia.

2. The graver the disease the less the reaction.

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<sup>2</sup> Dalton Scholar in the Massachusetts General Hospital.

<sup>3</sup> Professor of Comparative Physiology, Harvard Medical School.

<sup>4</sup> The state of the respiratory mechanism in dogs with pneumonia is now being studied. The results will be published with the full report of the present experiments.

\* Aided in part by a grant from the Proctor Gift.



## NOTE CONCERNING EXERCISE IN THE TREATMENT OF SEVERE DIABETES.

By FREDERICK M. ALLEN, M.D., NEW YORK.

[From the Hospital of the Rockefeller Institute for Medical Research, New York.]

AUTHORITIES on diabetes have agreed that muscular exercise is a useful means of increasing tolerance in cases of mild or moderate diabetes, but is inadvisable in the most severe cases, where it may increase glycosuria, exhaust strength, and even send the patient into coma. It has been a stringent rule that severe diabetics should be guarded against all excessive exertion and fatigue.

Since the changes in diabetic treatment now transform severe into mild cases as far as freedom from glycosuria and acidosis is concerned, it was considered worth while to investigate whether such patients might also react to exercise in the same way as mild cases. Tests were made first on diabetic dogs, with a known constant limit of tolerance for carbohydrate or protein. It was found that vigorous exercise on the treadmill markedly raised the tolerance of such animals, as judged by the sugar in both urine and blood. In some experiments, dogs which for months past had regularly shown glycosuria whenever they were given 100 grams of bread, on exercise became able to take 200 grams of bread as a regular daily ration without glycosuria.

The tests with patients are more recent, but the results thus far appear sufficiently favorable to warrant recommending exercise as an addition to the treatment. Just how early the exercise is begun may vary with individual patients. It seems possible that the stronger patients may shorten their initial fast by this means if desired. As soon as the first few days of treatment have markedly reduced glycosuria and ketonuria, the dangers previously feared from over-exertion are apparently removed. Naturally, some of the severest cases are too weak for exercise at first, but it is begun as early in the period of dieting as practicable, and generally the weak patient is able to do more than he or his physician supposed. In suitable cases the blood-sugar may be found to fall rapidly during a half-hour or hour of lively exercise. In the earlier or more severe cases it may rise thereafter; but often it will continue to fall after the exercise is ended, and remain for some time at a lower level. In a patient free from glycosuria with persistent hyperglycemia, one fast-day with exercise may reduce the blood-sugar as much as several fast-days without exercise. If glycosuria is produced in a patient by adding either carbohydrate, protein, or fat to the diet, it is frequently possible to abolish this glycosuria by exercise while continuing the increased diet.

It seems advantageous to give exercise especially after a meal containing carbohydrate or

other food tending to produce glycosuria, although, when patients are able, they exercise at all times of the day. At present, short periods of vigorous exercise with rests between are preferred to long slow walks, which might tire the patient even more. The exercises now suggested are running up and down stairs, jumping rope, throwing a heavy "medicine ball," and turning somersaults. Tennis and other hard games should probably be beneficial. At first, precautions may be taken against the nervousness and sleeplessness sometimes caused by over-weariness in weak patients. Otherwise, patients are worked right up to the limit of their strength, somewhat like athletes in training. In regard to the reduction in weight which has been advised in the fasting treatment, the question has arisen as to what kind of tissue it is desired to reduce. The answer seems to be that it is desirable to reduce fat and reserve tissues, and build up active muscular tissue. With this end in view, the emaciated, flabby-muscled diabetic is turned into an athlete as far as practicable. During exercise, no attempt is made to shield the patient against excitement, invigorating cold, or any similar influences previously dreaded in diabetes. It is hoped that an end may be put to the period of pale, feeble diabetics, dressed in double underwear while hugging the radiator and growing more neurasthenic all the time. Some of the exercises above mentioned are planned to shake up these patients and break up their former bad habits, both physically and psychically. The patients feel much better; they are kept occupied during the day, and sleep well at night. Hunger may be partly satisfied by vegetables and bran cakes, but in general exercise has increased appetite less than it has increased the power to satisfy appetite. The patients can take a somewhat more liberal diet, and enjoy the possession of somewhat greater weight and strength; but the increase of weight in this instance consists of muscle not fat.

It is hoped that this addition to the treatment of severe diabetes will prove of especial value to children, to patients with persistently low tolerance, and perhaps to some of that class previously so hopeless, viz. tuberculous diabetics. For the ordinary type of patients it may be a means of getting results somewhat more quickly and thoroughly, and leading to a higher degree of both comfort and usefulness. The value of exercise is strictly limited. It cannot raise tolerance very high, and it is not equal to the dietary regime in importance. Results will be unfortunate if it is used merely as a means for shortening the hospital care of the patient, or for building up weight and strength at the cost of more important considerations. The radical and permanent control of the diabetes is the essential matter, and is to be judged by such things as glycosuria, acidosis and blood-sugar, not by a temporary sense of well-being. A stern program of fasting, low diet, and reduction of weight is still necessary as before, but it is hoped

that results may be more beneficial with the use of exercise as an additional detail of the treatment. The experiments with exercise are still in progress and will be published in detail later, together with a discussion of their theoretical bearings.

# A STUDY OF THE STATISTICS OF THE NEW YORK STATE HOSPITALS FOR 1913, WITH SPECIAL REGARD TO STATISTICS REGARDING DEMENTIA PRAECOX.

By CHARLES T. LA MOURE, M.D., LAKEVILLE, CONN.,

*Superintendent of the Connecticut Training School for the Feeble-Minded.*

ON carefully studying the statistics of the New York State Hospitals for the year ending September 30, 1913, we find that 8269 patients were admitted, and 7294 were discharged, leaving a surplus of 975 patients. Of the number admitted there were 1021 cases of dementia praecox first admissions, or practically one-eighth of all admissions.

Of these 1021 cases of dementia praecox the following are the number and type of cases:

542 paranoid type (249 men, 293 women)  
 66 katatonic (39 men; 27 women)  
 299 hebephrenic (183 men; 116 women)  
 98 simple (59 men; 39 women)  
 16 unspecified (8 men; 8 women)

The greatest number of dementia praecox cases admitted, 233 (152 men; 81 women), were between 20 and 24 years of age, and 84 cases admitted (48 men; 36 women) were between 15 and 19 years of age. There was no history of insanity found in 537 of these cases (290 men; 247 women) or over 50%. There was no history of alcoholism found in 598 cases (298 men; 300 women), and no history of alcohol ascertained in 256 more of these 1021 cases. There was no history of any nervous disease found in 408 cases and none ascertained in 562 cases.

It is interesting to note that 718 of these cases were unmarried (438 men; 280 women) and that 228 cases were married (76 men; 152 women). Of these cases 643 (323 men; 320 women) had a common school education, seventy cases a high school education (36 men; 34 women) and 18 had a collegiate education (9 men and 9 women). Of these 1021 cases only 308 were classed as constitutionally inferior or defective (152 men and 156 women). There were discharged from the New York State Hospitals for the same year 606 cases of dementia praecox, of this number only 16 cases as recovered; 126 as much improved; 243 cases as improved; 221 cases as unimproved. As the statistics do not give the length of hospital residence of the discharged cases, certain deductions cannot be made.

During the same year 548 cases of dementia

praecox died—the greatest number (65) were between 35 and 39 years of age. The average age at death was: men, 46.8; women, 51 years or 49 years. The average length of hospital residence was 14.9 years for these 548 cases. One hundred and seventy-five of these cases died of tuberculosis of the lungs. The greatest number of deaths was from dementia paralytica (634 cases) and the average hospital residence was 1.4 years. There were 537 deaths among the senile cases, and their average hospital residence was 2.9 years. One hundred and eleven alcoholic cases died, and their average hospital residence was 5.1 years. One hundred and ninety-two manic depressive cases died, and their average hospital residence was 4.7 years. Seventy-seven cases of involuntional melancholia died, and their average hospital residence was 4.5 years.

It cost the state \$200 per capita in 1913. If we look at these statistics from a financial point of view we find that the 548 cases of dementia praecox whose average life in the hospital was 14.9 years have cost the state \$1,633,040.00, while the senile cases cost only \$311,460.00. The 634 cases of dementia paralytica cost but \$177,520.00; the 192 cases of manic depressive, \$180,480.00; the 111 alcoholics, \$113,220.00; the 77 cases of involuntional melancholia, \$69,300.00.

Of these 1021 cases of dementia praecox the paranoid form was most prevalent, as there were 543 of that type, and 45 more women than men so diagnosed. There were 98 cases of simple dementia praecox (59 men; 39 women), 299 hebephrenic type (183 men; 116 women), 67 more men of this type than women. Now with such a large number of first admissions diagnosed as dementia praecox, with 547 cases less than thirty years of age, with no history of insanity in 537 cases; no history of alcohol in 598 cases, and unascertained in 256 more cases, with only 308 cases of the 1021 cases classed as constitutionally inferior—with a history of 643 cases having had a common school education, 70 a high school, and 18 a collegiate education, does it not seem as if something more could have been done to relieve this form of mental disease—that special study should be devoted to this subject; especially as the pathologists have found no definite pathological change in the brains of cases of dementia praecox?

Some pathologists have claimed they found an atrophy in the cells in certain portions of the brain in cases of dementia praecox autopsied, but as most cases of dementia praecox live for years in a state of apathy without any mental activity, the atrophy of the brain cells is probably due to disuse. Until the pathologist can prove definite brain changes in cases coming to autopsy early in the disease, I shall continue to insist that whatever atrophy has been found in the brains is due to disuse of the mental processes and not to disease of the brain cells. As only 16 cases of dementia praecox were discharged as recovered during the year, and only 259 cases as improved, it proves conclusively that present

methods of treating this form of mental disease are lacking. I regret that the statistics do not give the type of dementia praecox of the 16 cases recovered or the length of their hospital residence. When I was in the Rochester State Hospital I was much surprised to discover that practically 50% of the permanent population of the hospital was diagnosed as dementia praecox. If this holds true for all the hospitals we can say that in 1913, 16,299 were cases of this type, and at \$200 *per capita*, and with an average hospital residence of 14.9 years, they will cost for their care \$48,651,120.00.

## Clinical Department.

### STUDIES IN SPEECH DISORDER.

No. 3.\*

#### THE DEVELOPMENT OF A MENTAL DEFECTIVE BY VOCAL DRILL.

By WALTER B. SWIFT, M.D., BOSTON,

*In Charge of Voice Clinic, Boston State Hospital, Psychopathic Department; Instructor in Neuro-pathology, Tufts Medical School.*

ABSTRACT: AN ALMOST HOPELESS DEFECTIVE.—DRILLED FOR MONTHS.—FINALLY SHOWED UNEXPECTED MENTAL DEVELOPMENT.

We are all interested in individuals who are much changed mentally. We too often picture brain and mind as pretty stationary, rather fatalistic, fossilized crystallization. We all have some time in our lives been sized up by others and this imprinted picture enforced upon us years later, after our mental makeup, our constellation of inter-related mental reactions, has found new channels, new interests and new aims. Many children never grow up to their parents. I should prefer to be treated like what I may possibly be five years hence, rather than like what I was five years back. It would be nearer absolute truth—for what I am thinking now in vague form will be printed then. Some men's minds are ever enlarging as years go on. The environs they place themselves in enforce it. Such men can never be thought of as stationary characters. Such men can never be pictured again as we pictured them the last time we met. If you do, they feel confined, belittled, unappreciated. It is fair to approach them only with open interest, ever inquiring, What is new?

It was after a start, teeming with hopelessness and doubtful of what vocal drill would accomplish, but yet willing to try, that I was finally driven into the state of mind typified by the question—what new—at almost every visit of

the case, I am about to present. Thus unexpected, even weird, unprophesied and unheralded came advance after advance to the little mind under drill, until what may be called a new constellation of inter-related ideals and interests settled down as the indwelling spirit of a formerly rather comparatively blank mentality.

These generalizations will be cleared up and take forms in concrete pictures by the presentation of the case:—

CASE. William Morgan, boy, aged 11; American; school grade 3. Vocal record:—

*Complaint.* "Brought for voice examination."

*Present Condition.* Makes vague efforts at articulation, which strangers do not understand. He is understood at home and his teacher understands him in school.

*Previous History.* Measles and chicken pox. At 4 operation for "tongue-tie." No relief. Began school at 4, always backward, especially in arithmetic, which he seems unable to grasp. Up to age of 8 could say only a few words. Much improvement in last three years.

*Family History.* Father and mother living and well; maternal grandmother died at 35 of tuberculosis. One maternal uncle had convulsions as a child and his speech was indistinct. He died at 16. Paternal grandfather dead. Cause unknown. Paternal grandmother alive and well at 65.

*Physical Examination.* (By Dr. W. P. Lucas.) "Poorly developed and poorly nourished for 11 years. Face slightly asymmetrical. Otherwise a complete examination is negative. No physical defects to account for his speech defect or mental condition."

*Psychological Examination.* Binet, 4-5 years. To a fair degree educable. Diagnosis: Mental defective.

*Vocal Examination.* In general, voice is vague and indistinct and characterized by short, sudden, explosive replies. Often says "yes" quite irrelevantly.

Vowels comply pretty well to local standards.

Consonants: Explosives are good except "G." For "th" says "f"; for "r" gives a nasal twang.

Utterances show constant uninhibited imitation; almost an uncontrolled low speech reflex. For example, when asked to say peripatetic he says quickly "peptic," never dwelling with good execution upon details. "R" sometimes like "W." "S" and "th" very faulty. "D" and "S" often omitted.

Can be understood at home and by one teacher in school. Strangers cannot understand him.

*Prognosis.* Poor but worth trying.

*Treatment.* Given vocal exercises, breathing exercises and muscle gymnastics varying somewhat as time passed and different stages of development arose.

Continued for over eight months on an average of 1 to 2 hours daily.

At the end of this time the patient could pronounce all vowels correctly, enunciate all consonants perfectly when not in combination. He could say simple combinations of words and sentences and more difficult ones after some practice.

Besides these merely articulatory attainments he showed several lines of mental unfoldment as follows:—

After two months his teacher reported improvement in his reading in school. After three months parent reported he was making a stronger and

\*No. 2 may be found in the BOSTON MED. AND SURG. JOUR., Oct. 2, 1915.

more continued effort in his home practice. Also is trying more to read words, understand pictures (as in newspapers) and understand what they mean.

After four months showed ability to learn a new poem in two days as well as he did his first poem in three weeks. After five months parent reported more interest in reading, a demonstration of more personal self-control, and better attention. Also has an increased interest in writing. After six months began to show improvement in speed of utterance. Arm movements during talking are less. During the eighth month showed a permanent forward advancement in mental powers, facial expression and interest,—shown in his reading the newspapers, drawing pictures, writing, and several other minor activities never shown before. Finally, he added to these changes a desire to tell stories at the table, such as describing an accident, or other occurrence he had seen in the street. After seeing acquaintances in the street, comes home and remarks on their dress, change of dress, etc. He also picks more words from the newspaper, spells them and asks their meaning, shows interest in the calendar, knows some of the months and wants to know the rest.

**Discussion.** To the thoughtful reader this case in a measure explains itself. It is a case of very dull, inactive mentality, acting with little initiative, poor concentration of attention, narrowed unintellectual mental processes—that by long vocal drill was developed out of all these qualities to a certain extent, and out of some of them to a very marked degree. The drill about tripled his mental horizon, his activities and interests. And all this within a year.

**Treatment.** The details of treatment I should prefer to reserve at this time as they are not yet crystallized in final form. Then, too, I should prefer to try them upon a larger number of other cases and reduce them to some sort of method or system before they are presented in final form. Results have been marked enough to warrant the report of this preliminary note. Elsewhere I plan to present this same case in detail, psychologically analyzed, and at that time the steps of vocal drill will be presented in their relation to the various steps of mental change, as are to be pictured in that analysis.

**Summary.** Defective mentality subjected to an eight months' intensive vocal drill, with the result that a remarkable and unexpected mental development followed, showing in new initiative, wider interests, an extended observation and other minor mental manifestations.

#### A TIME-SAVING METHOD FOR MULTIPLE SUGAR ANALYSES.

By B. H. RAGLE, M.D., BOSTON.

THE performance of a qualitative test for sugar in the urine requires, to be sure, scarcely three minutes—but, where there are ten or twenty urines to be examined, the amount of

time consumed is really considerable. Time thus spent is wasted. With this in mind experiments were undertaken to examine simultaneously several urines qualitatively for sugar by utilizing a water bath with perforated top. Such a water bath, with a plate perforated for test tubes, is to be found in most laboratories. Either the round or rectangular type is suitable and may be obtained at any laboratory supply house.

If Benedict's Solution is used the directions are as follows: The water bath, filled one and one-half inches, is placed over a large flame. While the water is coming to a boil about 5 c.c. of the re-agent are introduced into the same number of test tubes as there are urines to be examined. A very handy way is to have the tubes in a rack, and the solution can be run into them from a bottle. Eight drops of urine are now put into each test tube and the tubes immediately transferred to the boiling water bath and left for two and one-half minutes. Within 30 seconds to one minute the urines containing 0.5 per cent. or more sugar will have reduced the copper and in two and one-half minutes any specimen with a pathological trace of dextrose will be positive.

The method is just as applicable to Fehling's qualitative test. After the preliminary proof that the Fehling solution is not reduced by boiling, the tests are carried out in the ordinary manner and placed in the boiling bath two or three minutes.

#### ADVANTAGES OF THIS METHOD.

1. Multiple qualitative tests for sugar may be made simultaneously.
2. Bumping is avoided.
3. Test tubes are not broken.

#### REPLY TO AN ARTICLE BY DR. O. D. PHELPS ON A "NOB OF THE FRENUM OF THE UPPER LIP."

By JOHN W. FARLOW, M.D., BOSTON.

IN the BOSTON MEDICAL AND SURGICAL JOURNAL for September 9, 1915, there is an article by Dr. O. D. Phelps calling attention to the frequent occurrence of a nob of the frenum of the upper lip. From his observations he had come to the conclusion that these nobes were not of syphilitic origin, but he had been unable to find any reference to them in spite of a recent query in the *Journal of the American Medical Association*.

I have seen many instances of this nob or tab of the frenum and have called attention to it in my clinics and lectures. When the late Dr. Thomas Dwight, Professor of Anatomy in the Harvard Medical School, was writing his articles



for Piersol's Anatomy, he came to my clinic at the Boston Dispensary to examine the mouth and throat from a clinical point of view. I was able to show him a number of cases having the nob of the frenum.

In Piersol's Anatomy, 1907, page 1540, Prof. Dwight says: "There is a distinct frenum of mucous membrane passing from the anterior nasal spine to the middle of the upper lip. The free edge is often irregular and may have a nodular enlargement."

We saw no reason to consider them of specific or other pathological nature but merely as anatomic peculiarities, perhaps from irregularity of growth, as often occurs near a bony suture.

### Book Reviews.

*Practical Materia Medica and Prescription Writing.* By OSCAR W. BETHEA, M.D., Ph.G., F.C.S. Philadelphia: F. A. Davis Company. London: Stanley Phillips. 1915.

The author has compiled in the first part of the work a very satisfactory résumé of the *Materia Medica*. Briefly and in succinct form, we have spread before us all articles of medicinal value, their form, solubilities and doses. Included in this are numerous prescriptions, containing the articles mentioned, which have been largely copied from well known works on clinical medicine and treatment, but all of these, unfortunately, partake to a certain extent of the "shot gun" variety. Even though substantiated by such noted authors as are quoted, we cannot fail to admire the modern teaching, of the simple prescription, with its three parts, which are supposed to heal, "*cito, certo et jucunde*." A short discussion on the limited amount of Latin needed in prescription writing follows, and while the author may be an admirable authority on pharmacy, his Latin does not comply with what the writer learned years ago in school and college. His translation of *Fiat* is "make thou," while the former literal translation was "let there be made."

His demonstration of the metric system and its employment in prescriptions is hardly consistent with the customs of the countries in which this system is employed exclusively. For instance, he objects to the use of the period between grams and fractions of grams, and insists upon the use of a perpendicular line. In Germany, from personal experience, prescriptions written in this way, were rejected by pharmacists and the period always insisted upon. It would seem to be equally necessary when dollars and cents are written, invariably to have the perpendicular line dividing the total and the fraction. His insistence upon the absent figures,

to the right of the period being replaced by zeros, is to be thoroughly commended.

The second part of the volume is really the more valuable. Here, we find a most common sense and practical demonstration of prescription writing. Every point, with reference to compatibility, arrangement, forms and administration, is carefully considered. Furthermore, with homely illustrations, he points out the errors which are every day committed by practically every practising physician, and in a series of illustrations, shows how a prescription should not be written and in the same page the errors of the former, by writing it in satisfactory form with reasons for the change. Still, his commendation of proprietary preparations will hardly impress the younger physician of the present day, when students of all first class medical colleges are taught, both by didactic lessons and by experience in the inspection and handling of drugs, to write for articles which will be not only effective in combination, but elegant in appearance and pleasant in taste.

*Henry Phipps Institute for the Study, Treatment and Prevention of Tuberculosis.* Tenth and Eleventh Reports. Philadelphia: Henry Phipps Institute. 1915.

These two recently published reports of the Henry Phipps Institute continue the work of that organization in publishing the results of its research. The tenth report, by Dr. C. M. Montgomery and Dr. E. A. Eckhardt, deals with pulmonary acoustic phenomena, being an investigation of some of the factors concerned in the origin and transmission of sounds heard over the lungs in health and in disease. Particular attention is devoted to the voice sounds, spoken and whispered, and to the respiratory or breath sounds. The work is illustrated by an admirable table of diagrams representing the operation in some of the pulmonary and pleural conditions of reflection and diffusion as the most important factors that diminish sounds on their way through the chest. The eleventh report, by Dr. Frank A. Craig, records a study of the housing and social conditions in selected districts in Philadelphia, with especial reference to the relation of these to the incidence and prevalence of tuberculosis. The number of houses investigated in this study was 1093 and the number of people living in these houses was 5812. The work is abundantly illustrated with tables, graphic charts, diagrams and full-page plates, and by a large folding map of the district of the city investigated. An appendix contains a reproduction of the charts used in collecting the data for the report. Both these reports are useful contributions to the literature of progress in the knowledge of tuberculosis.

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## WORK OF MASSACHUSETTS SOCIETY FOR MENTAL HYGIENE.

ATTENTION is called to the program of the approaching mental hygiene conference and exhibit, which is to be held in Boston on Wednesday, Thursday and Friday of next week, November 17, 18 and 19. The program is published in full on page 757 of this issue of the JOURNAL. This meeting and exhibit are designed to exemplify the work which is being done by the Massachusetts Society for Mental Hygiene in its activities for the prophylaxis of mental disease and to afford occasion for the discussion of problems connected with this work and hopefully for the advancement of knowledge in its conduct.

As a leading article in this issue of the JOURNAL, we also publish an address by Dr. Frankwood E. Williams, executive secretary of the Society for Mental Hygiene, on legislation

for the insane in Massachusetts with particular reference to the voluntary and temporary care laws. This address, originally delivered before the Bristol and Essex North District Medical Societies, will appear as publication No. 5 of the Society. The fourth of these publications was the annual discourse before the Massachusetts Medical Society in 1912, delivered by Dr. Walter E. Fernald of Waltham on "The Burden of Feeble-mindedness" and published in the issue of the JOURNAL for June 13, 1912 (Vol. clxvi, p. 911). In the issue of the JOURNAL for June 24, 1915 (Vol. clxxii, p. 933) we also published another article by Dr. Williams on "Psychopathic Hospitals and Prophylaxis." These three papers, though separated by some interval from one another, are indicative of the type of work encouraged by the Massachusetts Society for Mental Hygiene and of the research accomplished by the physicians engaged in its activities. There is an immense field for profitable investigation in the great domain of mental diseases and abnormalities. The attention of the profession is particularly called to the importance of this work in the hope of inviting the interest of general practitioners, as well as of specialists in nervous and mental disease, in the work of the Massachusetts Society for Mental Hygiene and in its coming conference and exhibit.

## REPORT OF THE HARVARD UNIVERSITY SURGICAL UNIT.

In another column of this issue of the JOURNAL we have the pleasure and privilege of publishing simultaneously with the *Harvard Alumni Bulletin*, the full text of the official report prepared by Dr. Greenough of the work done by the Harvard University Surgical Unit at the American Ambulance Hospital, Neuilly, Paris, France, during its period of service there from April 1 to July 1, 1915. The financial sponsor of the expedition, it will be remembered, was Mr. William Lindsey, whose loyal generosity made possible the performance of a work at once so creditable to the University and so valuable to those engaged in it. In his letter transmitting this report to the President and Fellows of Harvard College, Dr. Harvey Cushing, in behalf of the department of surgery, under whose charge the expedition was conducted, writes in part as follows of the report and of the work which it chronicles:

"The story of the Ambulance is doubtless more or less well known to you; but, as is true of most of the non-partisan activities in which philanthropic Americans have engaged on the fringe of the European conflict, fitful gossip and the news columns have sometimes dimmed the lustre of what is really a great work. To this the American Ambulance has been no exception, but whatever misgivings on this score may have been raised in the mind of any member of our expedition before his departure, they were promptly dispelled on the inauguration of our actual work, which each of us was loth to leave at the expiration of his time.

"It was gratifying to feel that we were of assistance to the wounded who came under our care, and this after all was the purpose for which we were sent. We trust, furthermore, that the service rendered was of such quality as to be worthy of the University in whose name it was performed. As Dr. Greenough points out, the Medical School will profit materially through collections presented to us by the Ambulance Committee, which will make a notable addition to the Warren Museum.

"I think I may safely express the feeling of our contingent by the statement that in the event of a second invitation to take over a similar service, they would urge its acceptance by the University and if given leave of absence would themselves again gladly volunteer as applicants for the various positions."

Already the achievements of American medicine and surgery in the European war have elicited comments of approval and admiration from the profession of the several European nations. As the war continues, further opportunity for similar and more extended service by American physicians and surgeons will constantly arise. At the present time a third Harvard Surgical Unit is about to sail for Europe for a six months' service. American physicians are at present actively engaged in relief work in Belgium, England, France, Germany and Russia. Opportunities such as the present for experience in military medicine and surgery during war will probably not occur again during the lifetime of any now engaged in professional activity. Unfortunate though the occasion of these opportunities may be, they should be promptly accepted by American physicians, not merely for the personal benefit and experience which they may afford, but for the credit which they may reflect upon the American profession and for their service to the interests of humanity.

#### A RABELAISIAN MEDICAL COMEDY.

THERE was more than coincidence, there seemed appropriate intention, in the selection of the opening night of the recent Clinical Congress of Surgeons in Boston for the *première* of "The Man who Married a Dumb Wife." This delightful little curtain-raiser of Anatole France, played as a prodrome to Shaw's "Androcles," is an exquisite bit of medical farce-comedy done by a modern in the best manner of Molière. Moreover, not only does the story concern doctors, but it was originally told by a physician, Maître François Rabelais, the cynic philosopher of the sixteenth century.

In his grotesque and flamboyant chronicle of "Gargantua and Pantagruel," that unique conglomerate standing in literature midway between Boccaccio's "Decameron" and Burton's "Anatomy of Melancholy," Rabelais records a joyful incident in the student days of one of his characters at the University of Montpellier. The following translation of this passage is taken from the version of Sir Thomas Urquhart:

"Welcome, in good faith, my dear master, welcome! It did me good to hear you talk, the Lord be praised for all. I do not remember to have seen you before now, since the last time that you acted at Montpellier with our ancient friends, Anthony Caporra, Guy Bourguier, Balthasar Noyer, Tolet, John Quentin, Francis Robinet, John Perdrier and Francis Rabelais, the moral comedy of him who had espoused a dumb wife.

"'I was there,' quoth Ephistemon. 'The good, honest man, her husband, was very earnestly urgent to have the fillet of her tongue untied, and would needs have her speak by any means. At his desire some pains were taken on her, and partly by the industry of the physician, and partly by the expertness of the surgeon, the encliglotte which she had under her tongue being cut, she spoke, and spoke again; yea, within a few hours she spoke so loud, so much, so fiercely and so long, that her poor husband returned to the same physician for a receipt to make her hold her peace. "There are," quoth the physician, "many proper remedies in our art to make dumb women speak, but there are none that ever I could learn therein to make them silent. The only cure which I have found out is their husbands' deafness." The wretch became within a few weeks thereafter, by virtue of some drugs, charms of enchantments, which the physicians had prescribed unto him, so deaf that he could not have heard the thundering of 1900 cannon at a salvo. His wife, perceiving that indeed he was as deaf as a door-nail, and that her scolding was but in vain, sith that he heard her not, she grew stark mad.

"Then the doctor, asking for his fee, the husband answered that truly he was deaf, and so was not able to understand what the tenor of this demand might be. Whereupon the leech bedusted him with a little, I know not what, sort of powder, which rendered him a fool immediately, so great was the stultifying virtue of that strange kind of pulverized dose. Then did this fool of a husband and his mad wife join together, and, falling on the doctor and surgeon, did so scratch, bethwack, and bang them, that they were left half dead upon the place, so furious were the blows which they received. I never in all my lifetime laughed so much as at the acting of that buffoonery."

This incident, in which Chaucer would have rejoiced as keenly as did Rabelais, was the one selected by M. France as the basis of his play, and he has expanded it into an exquisite bit of comic characterization and satire in the fashion not of Rabelais, but of Molière at his best. In the physician, surgeon and apothecary who come to cure the dumb wife, one can see the counterparts of characters in "Le Médecin Malgré Lui" or "L'Amour Médecin." It was Molière's instinct to caricature and lampoon the medical profession of his time, just as he made fun of the clergy, the law and the scholiasts, but always genially and without sarcasm. France has caught this manner to perfection and, in his subtle ridicule of the doctors, merely pokes fun at their obvious shams and bombast. Take, for instance, the praise of the physician, Maître Simon, which he puts into the mouth of the surgeon, Jean Maugier:

"Oh! qu'il faut être reconnaissant aux savants médecins qui, tels Maître Simon Colline, travaillent à nous conserver la santé et nous soignent dans nos maladies. Oh! qu'ils sont dignes de louanges et de bénédictions, ces bons médecins qui se conforment dans la pratique de leur profession aux règles d'une savante physique et d'une longue expérience."

Again, when Léonard, the husband of the dumb wife, queries whether an apothecary need also be present at the operation, Maître Simon replies, "Oui, Monsieur, et quiconque en doute ignore totalement les relations des organes entre eux et leur mutuelle dépendance." Finally, the three are gathered for the procedure, before and after which they drink copiously at the expense of Léonard. Fee-splitting and medical perquisites were the rule of those days. Later, when the dumb wife, become garrulous, has driven her husband to distraction, the consultants are again summoned to reverse the process,

which, however, Maître Simon declares impossible:

"Hélas, monsieur le juge, il n'est élixir, baume, magistère, opiat, onguent, emplâtre, topique, électuaire, panacée pour guérir chez la femme l'intempérance de la glotte. La thériaque et l'orviétan y seraient sans vertu, et toutes les herbes décrites par Dioscorides n'y opèrent point."

The only alternative is deafness for the husband, and this, says Simon, may be produced in various ways:

"Maître Simon. La cophose ou surdité peut être obtenue de plusieurs manières. On la produit soit par l'otorrée, soit par les oreillons, soit par la sclérose de l'oreille, soit par l'otite, ou encore par l'ankylose des osselets. Mais ces divers moyens sont longs et douloureux."

Léonard. Je les repousse! . . . Je les repousse de toutes mes forces.

Maître Simon. Vous avez raison. Il vaut bien mieux obtenir la cophose par l'influence d'un certaine poudre blanche que j'ai dans ma trousse, et dont une pincée, introduite dans l'oreille, suffit pour vous rendre aussi sourd que le ciel dans ses jours de colère.

Léonard. Grand merci, Maître Simon Colline; gardez votre poudre. Je ne veux pas être sourd.

Maître Simon. Quoi, vous ne voulez pas être sourd? Quoi, vous rejetez la cophose? Vous fuyez la guérison que vous imploriez tout à l'heure? C'est un spectacle trop fréquent et bien fait pour porter la douleur dans l'âme d'un bon médecin, que celui du malade indocile qui repousse le remède salutaire . . .

Maître Jean Maugier. . . . Se dérobe aux soins qui soulageraient ses souffrances . . .

Maître Seraphin. . . . Et refuse d'être guéri."

Two pages of chatter by Catherine, however, make Léonard change his mind and the powder is employed. Then the consultants are soundly beaten and bitten and the comedy closes with the rollicking horse play of which the mediæval drama was so fond.

France is felicitous, too, not only in his characterization, but in his indirect medical comment. For instance, Maître Adam, who first counsels the operation on Catherine, comments as follows on the difference between deaf-mutes who learn to speak and dumb persons who are not deaf.

"Les médecins, apothicaires et chirurgiens, s'ils parviennent à faire parler un sourd-muet, ce n'est jamais que d'une langue aussi sourde que son oreille. Il n'entend ni ce qu'on lui dit ni ce qu'il dit lui-même. Il en va tout autrement des muets qui entendent. C'est un jeu, pour



un médecin, que de leur délier la langue. L'opération coûte si peu qu'on la fait journellement sur les petits chiens qui tardent à aboyer."

Evidently the training of deaf-mutes was known before the days of Froebel and Horace Mann.

There is, perhaps, little of twentieth century relevance in the farce of "Celui Qui Épousa une Femme Muette," but the spirit of its satire and of its human allusion are as genuine today as in the time of Rabelais or Molière.

### MEDICAL NOTES.

**THE WEEK'S DEATH RATE IN NEW YORK.**—During the last week of Commissioner Goldwater's administration there were 1194 deaths in the city of New York, and a death rate of 10.73 per one thousand of the population, as compared with 1134 deaths and a rate of 10.60 in the corresponding week of 1914, an increase of 60 deaths and of .13 of a point in the rate. According to the Health Department's statistician, there was a decrease of 50 per cent. in the death rate from diphtheria and croup, and an increase of about 10 per cent. in the acute respiratory diseases. The mortality from the remaining causes was about the same as that of last year.

Viewed from the point of age grouping, the deaths of children under five was considerably below that of the same week last year, while that of persons 65 years of age and over was considerably higher, the one almost counterbalancing the other.

The death rate from the first of January to date was 13.18 per one thousand of the population, as compared with a rate of 13.59 during the corresponding period in 1915, a decrease of .41 of a point.

**GIFTS IN MEMORY OF PHYSICIANS FOR MEDICAL EDUCATION.**—In his recent annual report, the president of Western Reserve University announces the gift of a sum of \$40,000. for the endowment of the medical school of the University, to be established as a fund in the name of the late Dr. Hunter H. Powell, who gave his life to the service of the school. President Thwing also suggests the establishment of a similar special fund in memory of the late Dr. Dudley P. Allen, the income to be used "for research in the science of surgery or for the support of its practice."

**NATIONAL COMMITTEE FOR THE PREVENTION OF BLINDNESS.**—The annual meeting of the National Committee for the Prevention of Blindness was held at the New York Academy of Medicine on Thursday of last week, November 4, under the presidency of the Honorable Joseph

H. Choate. Addresses were delivered by the Honorable William H. Taft and Dr. George E. DeSchweinitz, professor of ophthalmology in the University of Pennsylvania.

**NATIONAL SOCIETY OF KEEP-WELLS.**—In the issue of the *Washington Star* for October 27, is reported the organization in that city of a new lay society denominated the National Society of Keep-Wells. This society is organized for the purpose of holding lay meetings to be addressed by physicians on topics of hygiene and preventive medicine.

**REGULATION OF THE PRACTICE OF MEDICINE.**—The medico-legal bureau of the American Medical Association has recently compiled a digest of the case law on the statutory regulation of the practice of medicine which will be issued for the benefit of the legal and medical professions, of legislators and of the public.

**MARRIAGE OF TUBERCULATES.**—In the weekly report of the United States Public Health Service for Oct. 22 appears the following statement of a recent judicial decision annulling the marriage of a person who concealed the fact that he was suffering from tuberculosis:

"The courts have held in a number of instances that the marriage of a person suffering from a venereal disease might be annulled at the instance of the other party to the marriage when the existence of the disease had been concealed. The Supreme Court of the State of New York, in *Sobol vs. Sobol* (p. 3175 of this issue of the Public Health Reports) carries this legal principle one step farther.

"The defendant (the husband) had been treated for tuberculosis and knew that he was suffering from the disease. He concealed this fact from his fiancée, and explained certain symptoms by saying that he was suffering from a cold. After the marriage his wife discovered the nature of his illness and brought suit to annul the marriage. No issue resulted from the union.

"The court decided that, in view of the possible serious consequences of such a marriage to the wife, to the children if any should be born, and to the community, the marriage contract should be annulled. The legal basis of the decision was the fraud of the defendant in concealing and misrepresenting the condition of his health."

**PREVALENCE OF MENINGITIS, POLIOMYELITIS AND TYPHOID FEVER.**—The weekly report of the United States Public Health Service for October 22, states that during the month of September, 1915, there were in Maryland six cases of cerebro-spinal meningitis, seven of poliomyelitis and 609 of typhoid fever. During the same period there were in Massachusetts five cases of

meningitis, sixteen of poliomyelitis and 322 of typhoid. There were 274 cases of typhoid fever in New Jersey.

**APPOINTMENT OF DR. HAVEN EMERSON.**—Dr. Haven Emerson, formerly Deputy Commissioner and Sanitary Superintendent, will succeed Dr. S. S. Goldwater as Commissioner of Health of New York City. Dr. Emerson is well-known as a capable and efficient public health administrator and will, no doubt, continue the work and accomplishment of this important department in a manner commensurate with its opportunities and necessities. An address which Dr. Emerson delivered before the Harvard Medical Alumni Association on "The Relation of the Medical Profession to Preventive Medicine" appears in the *JOURNAL* of October 21, 1915. Of the work of Dr. Goldwater, editorial comment was made by the *JOURNAL* at the time of the publication of Dr. Goldwater's address to the Boston Dispensary on "Dispensaries: A Growing Factor in Curative and Preventive Medicine" (April 29, 1915, Vol. clxxii, No. 17).

**SOURCE OF FOOT AND MOUTH DISEASE.**—On November 2, the United States Department of Agriculture issued at Washington an official statement regarding the recent recrudescence of foot and mouth disease in Illinois. This outbreak has been traced to a supply of anti-hog cholera serum prepared from the blood of hogs infected with foot and mouth disease, but showing no symptoms at the time. The serum was tested before being used but no evidence of contamination was found. Tests subsequent to the reappearance of the epizootic, however, show that the serum was infected. The Department makes the following statement relative to the control of the manufacture of this serum.

"The problem of producing serum which will be effective in controlling hog cholera and at the same time will be absolutely safe in general use is complicated by the fact that the Department of Agriculture has no authority over serum plants which dispose of their products exclusively in the State in which they are manufactured. Such establishments are amenable alone to State law and regulation. The virus act confers no authority on the Department to guarantee or certify any commercial serum, nor does it provide for a continuous examination and inspection of serum establishments, such as the meat inspection law provides for packing houses. The Department can control only serums and analogous products in interstate commerce when there is evidence that they are contaminated, dangerous or worthless, or when the manufacturer is not licensed to engage in such interstate business. The virus act was passed about two years ago, and within the short time intervening between its passage and the outbreak in 1914, and with the facilities available, the Department extended its inspection over serum plants just as far as the law and circumstances permitted. There were in October, 1914, about ninety serum

plants holding Federal licenses, located at widely separated points in the United States. This condition rendered continuous inspection very expensive and impossible with the funds legally available for the purpose."

**AMERICAN ASSOCIATION FOR STUDY AND PREVENTION OF INFANT MORTALITY.**—The sixth annual meeting of the American Association for Study and Prevention of Infant Mortality is to be held in Philadelphia, November 10-12, 1915.

The subjects to be discussed include:

Eugenics.

Effect of the economic standing of the family on infant mortality.

Infant welfare nursing in small cities, towns and rural districts.

Institutional mortality.

Midwifery conditions.

Treatment and prevention of respiratory diseases.

Mr. Homer Folks of New York is president of the Association, and Dr. S. McC. Hamill of Philadelphia, president-elect for 1916. Dr. Joseph S. Neff, 801 Weightman Building, Philadelphia, is chairman of the Committee on Local Arrangements.

The sessions will be under the chairmanship of the following:

Eugenics—Dr. Wm. F. Snow, New York City.

Pediatrics—Dr. Charles A. Fife, Philadelphia.

Obstetrics—Dr. Mary Sherwood, Baltimore.

Economic Aspects of Infant Welfare—Mr. Sherman Kingsley, Chicago.

Nursing and Social Work—Miss Ella Phillips Crandall, New York City.

The session on Economic Aspects of Infant Welfare will be a joint one with the Philadelphia County Medical Society and will be held at the College of Physicians. All other sessions will take place at the Bellevue-Stratford Hotel.

The provisional program for this meeting contains promise of a number of interesting and important papers. Among the Massachusetts physicians who are to present addresses are Dr. John Lovett Morse and Dr. James Lincoln Huntington of Boston. A more extended account of this conference on infant mortality with comment on certain aspects of the problems which it involves will appear in next week's issue of the *JOURNAL*.

**SPECULATION IN DRUGS.**—In continuance of the comment on the increased cost of drugs and of the factor of speculation in the production of this increase, may be quoted the following item from a recent issue of the *New York Commercial*.

"The unprecedented upheaval in drug and chemical market conditions growing out of the derangement of former sources of supply in Europe, Russia, Asia, Turkey, Egypt, Japan and China and the Far East, has resulted in net advances ranging anywhere from ten to more than

one hundred per cent. since June 1, a period of less than six months.

"If we accept the explanations of leading handlers of drug and chemical products the cause of these conditions lies almost wholly in the curtailment of foreign drug supplies. So diversified is the business in drugs, chemicals and dye materials and allied products, however, that no single interest or even group of interests is in a position to offer satisfactory explanations justifying the present extraordinary position of the market.

"Were an investigation to be conducted the ultimate findings would no doubt be that, notwithstanding the rigid restrictions placed upon output by American manufacturers and first hands, of the most important products, speculators have succeeded in corraling great quantities which have been purchased by those belligerents in Europe still in position to receive shipments from America at fabulous prices.

"Quinine occupies the centre of the stage today, the price having advanced from a normal figure of around 28 cents an ounce to \$2.25 an ounce. The domestic production of this article is only one-half of what the annual imports of foreign sulphate amount to. It is said by authorities that more than 500,000 ounces of quinine have been exported to Europe since the commencement of the European war. The action of the domestic makers in restricting the output to their regular customers to their bare pro rata share of what remains in the hands of the former interests is commendable, but is tantamount to locking the stable door after the horse has made his escape.

"Exceptional conditions have, of course, appeared in a great number of drug products which have justified reasonable advances. The efforts at domestic production of aniline oil, beta naphthol, para-nitra aniline, carbolic acid and a great many other chemicals which were formerly obtained almost exclusively from Europe have provoked much attention. Speculators have seized the supplies of these products as well as many other stable articles, however, and in the wild scramble for dollars the industrious chemist who has been endeavoring to supply the much-needed trade wants of today has been relegated to oblivion."

Another evil of this situation is that a spurious aspirin, consisting of calcium, starch, alum, cream of tartar, citric acid, and milk sugar, has been produced and is being marketed; likewise a neosalvarsan equally fraudulent. The United States Department of Agriculture has issued a warning against these preparations.

**AWARD OF NOBEL PRIZE.**—Report from Stockholm on October 30 announces that the Nobel prize in medicine for 1914 has been awarded to Dr. Robert Barany of the University of Vienna for his work in physiology and pathology. Previous awards of the Nobel Prize in medicine and physiology have been made as follows:

1901, Dr. Emil von Behring, for his work on sero-therapy in diphtheria; 1902, Dr. Ronald Ross, for his work on malaria; 1903, Dr. Niels R. Finsen, for his work on the photo-therapy of lupus; 1904, Dr. Ivan Petrowitch Pawlow, for his work on the physiology of digestion; 1905, Dr. Robert Koch, for his work on tuberculosis; 1906, Dr. Camillo Golgi and Dr. Santiago Ramon y Cajal, for their work on the anatomy of the nervous system; 1907, Dr. Charles Louis Alphonse Laveran, for his work on the protozoa; 1908, Dr. Paul Ehrlich and Dr. Elie Metchnikoff, for their work on immunity; 1900, Dr. Theodor Kocher, for his work on the physiology, pathology and surgery of the thyroid gland; 1910, Dr. Albrecht Kessel, for his work on proteid substances; 1911, Dr. Allvar Gullstrand, for his work on optics; 1912, Dr. Alexis Carrel, for his work on the suture of vessels and the transplantation of vessels and organs; 1913, Dr. Charles Richet, for his work on anaphylaxis. The award of the prize for 1915 will be reserved until 1916.

#### EUROPEAN WAR NOTES.

**AMERICAN RED CROSS UNIT IN GERMANY.**—Report from Rome states that on October 29, Dr. B. W. Caldwell and other American Red Cross surgeons, passed through that city on their way to Germany through Switzerland. The unit which they composed is to undertake the medical care of Russian prisoners in Germany.

**RETURN OF DR. BEAL.**—Report from New York states that on October 31, Dr. Howard W. Beal of Worcester, Mass., landed in that city aboard the steamer *Rotterdam* from Falmouth to England. For the first fourteen months of the war Dr. Beal has been in the service of the American Red Cross in England and has had charge of the American Women's war hospital at Paignton, Devonshire. At the close of his service there Dr. Beal was awarded the British Red Cross medal and was received by a committee of thirty prominent British physicians including Sir William Osler, Sir Alfred Keough, medical director-general of the British army and Sir Arthur May, medical director-general of the British navy.

**CHOLERA IN AUSTRIA HUNGARY AND GERMANY.**—During the week ended August 14, there were in Austria 3775 cases of Asiatic cholera with 2008 deaths, the majority being among the civil population. Of these cases 3532 with 1979 deaths occurred in Galicia. In Hungary during the week ended August 15 there were 388 cases of cholera with 242 deaths. During the week ended September 11, 1915, there were only three cases of cholera in Germany all among civilians. There were isolated sporadic cases of the disease among prisoners in detention camps at Bromberg, Frankfort, Magdeburg, Marienwerder, Oppeln and Pottsdam.

**WORK OF THE LAFAYETTE FUND.**—The work of the Lafayette Fund, one of the principal New England funds for European war relief, has consisted in the distribution among soldiers at the front of kit bags containing surgical dressing materials and other necessities valuable to soldiers in action or in the trenches. Over 25,000 of these kits have already been distributed. The chairman of the Boston committee of this fund has recently received the following appreciative letter from the American Relief Clearing House in Paris, relative to the work done by this fund.

"We think it would be interesting to you to know that we have recently passed the number of 25,000 Lafayette kits, which we have distributed to the soldiers at the front in your name. We are sending this information next week to the Paris papers, telling the French people of your generosity and of the remarkably useful selection of things which you have chosen to put in these Lafayette kits, which, without doubt, have proven to be the best hit of the war in their way.

"We should like to repeat to you the truly genuine appreciation and gratefulness of every soldier who receives one of these kits. They all demand them—every man in the army would like a Lafayette kit, and soldiers, when they return to Paris for their few days' vacation from time to time, are constantly beseeching us for one of these famous gifts. With very rare exceptions, however, we never distribute kits in Paris. We take the greatest pains and the greatest care in our distribution, and no soldier at the front who makes application can have one unless his application has been countersigned by at least his captain. We believe, as we have written elsewhere to you, that one of the most efficient methods, and one that would please you most, is the personal distribution of these kits to those soldiers of whom we have some knowledge. We are, therefore, preparing daily about eighty individual kits at our warehouse, which we send off the following morning.

"It may be interesting to you to know that the regulations call for all kits and other small packages to be sewn up in white cloth with the name written thereon in indelible ink. It is a great pleasure for us, however, to take this extra care for these much-appreciated gifts and we take great pride and great satisfaction in distributing them in your name to those who find so much pleasure in receiving them."

All checks and money orders should be made payable to Lafayette Fund and mailed to the Old Colony Trust Company, 17 Court Street, Boston.

**WAR RELIEF FUNDS.**—On Nov. 6 the totals of the principal New England relief funds for the European War reached the following amounts:

Belgian Fund, \$277,704.36; American Ambulance, \$60,897.00; British Fund, \$33,450.89; French Fund, \$21,684.82; St. George's Fund, \$12,085.54; La Fayette Fund, \$11,013.99; Italian Fund, \$10,768.09; Allied Fund, \$10,307.00; Surgical Dressing Fund, \$3904.00.

#### BOSTON AND NEW ENGLAND.

**BOSTON DEATH-RATE LOWER.**—During the week ending October 30 there were 180 deaths reported with a rate of 12.90 per 1000 of population as compared with 213 deaths and a rate of 15.43 for the corresponding week of last year.

The principal differences were in tuberculosis which numbered 16 deaths for the week against 30 last year, and in diarrhea and enteritis under 2 years which numbered 8 deaths for the week against 21 last year.

For the same week there were 34 deaths under 1 year of age as compared with 43 last year. Of these 34, 3 were less than one day old and 6 less than 1 week; 10 died in hospitals; 5 died of diarrhea and enteritis in hospitals and 3 of the same disease at home.

The total number of 1915 deaths reported up to noon of October 21 is 9821 against 9756 in the same period last year. Inasmuch as Boston's population is about 8000 greater than last year these totals indicate a slightly lower rate this year than last.

Deaths under 1 year reported from Jan. 2 to Oct. 30 number 1671 against 1666 for the corresponding period last year.

**SUMMARY OF VITAL STATISTICS.**—Boston had 793 deaths reported in the four weeks ending October 30, against 841 in the corresponding period last year, and a death-rate of 14.20 against 15.23.

Reported deaths of non-residents numbered 116 against 103 last year.

Of deaths from reportable diseases the principal decreases were:

Tuberculosis (all forms) .....	26
Diphtheria .....	9
Scarlet fever .....	4

and the principal increase was:

Whooping cough .....	10
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Other important differences were as follows:

#### DECREASES.

Organic diseases of heart, endocarditis and nephritis .....	29
Diarrhea and enteritis (under 2 years) ..	18
Premature birth .....	14
Cancer .....	8
Diarrhea and enteritis (2 years and over) ..	8

#### INCREASES.

"Other causes" .....	50
Violent .....	5
Pneumonia .....	5

There were 17 less deaths under 1 year, 4 less under 5 years and 39 less over 60.

Deaths under 1 year reported from Jan. 2 to Oct. 30 number 1671 against 1666 for the corresponding period last year.

The total number of 1915 deaths reported up to noon, Oct. 31 is 9821 against 9756 in the same period last year.



Mortality Report for the four weeks and the same period in 1914:

	1915	1914
Total deaths .....	793	841
Non-residents .....	116	103
Rate .....	14.20	15.23
Corrected rate (Non-residents deducted) .....	9.10	10.03
Deaths under 1 year .....	149	166

**HOSPITAL REQUESTS.**—The will of the late Warren M. Hill of Boston, which was filed at the local probate office on Nov. 1, contains a bequest of \$2500 to the Woman's Charity Hospital, Roxbury.

The will of the late Luther Hills Pierce of Chicago, who was born at Bangor, Me., in 1837, contains a bequest of \$100,000 to the Eastern Maine General Hospital, located at Bangor.

**LONG ISLAND HOSPITAL.**—The eighteenth annual report of the Boston Infirmary Department for the year ending January 31, 1915, states that the average population at Long Island has been 1000, an increase of 91 over the previous year. The cost per capita in the hospital was \$5.99. The new buildings begun in 1913 are completed and occupied. The kitchen building and bakery have been equipped with the most approved machinery and appliances and the men's dormitory has been rebuilt to form an administrative center for the entire group of buildings. Funds have been appropriated for the erection of a nurses' home with accommodations for about eighty nurses and two ward buildings with a capacity of fifty-four beds each. The visiting medical staff of the hospital call attention to the pressing need of laboratory facilities. They state that the opportunities at the Long Island institution are exceptional for men of earnestness and enthusiasm, that a pathological and chemical laboratory equipped in the most modern way would serve as a center for research and for the routine work of the hospital. It is not to be doubted, were such laboratories established, that the hospital would greatly benefit, not only as a most adequate means of training young men for the practice of medicine but also as a means to the more adequate and scientific treatment of its patients.

**MASSACHUSETTS SOCIETY FOR MENTAL HYGIENE.**—At a recent meeting of the Massachusetts Society for Mental Hygiene, Professor William H. Burnham, of Clark University, was elected president to complete the unexpired term of the late Judge Harvey H. Baker. Other officers of the Society for the ensuing year were elected as follows: Dr. Walter E. Fernald, vice-president; Dr. Charles E. Thompson, Gardner, secretary; John Koren, Boston, treasurer; Dr. Frankwood E. Williams, Boston, executive secretary. Members of the executive committee of the board of directors are Dr. James J. Putnam, Boston; Dr. Alfred E. P. Rockwell, Worcester;

Miss Edith N. Burleigh, Boston; Dr. Henry R. Stedman, Brookline, and Prof. Robert M. Yerkes, Cambridge.

**NEW IDEAS IN THE CARE OF THE INSANE.**—Another record of the therapeutic value of work in the care of the insane is found in the October bulletin of the Massachusetts State Board of Insanity. The superintendent of Danvers State Hospital reports the success of an experiment with a group of patients who were disturbed, restless and occasionally violent. About seventy strong, able-bodied inmates of this class were employed during the summer in reclaiming waste fen land along the Ipswich River. From three to four acres have already been made available for agricultural purposes and the effects of such systematic occupation on the part of the patients has been very encouraging. Even refractory cases who, by reason of violent and troublesome conduct, had led the vacant, fruitless lives of custodial cases, have become quieter and more amenable to order and hospital rules under the moral reaction of definite accomplishment.

In this connection it is interesting to note an experiment which is being tried in Germany. At Bedburg, in that country, a garden city for over 2000 lunatics has been established. German doctors have recognized that the method of keeping lunatics in asylums is a mistake. The best way to cure them, they say, is to give them as much freedom and open air as possible. The garden city of Bedburg consists of 36 large houses, each capable of accommodating 80 to 100 patients. A large farm has been established and stocked with cattle and horses. Everything that is necessary for a small town, in fact, is to be found in the newest of garden cities. It has even a theatre. The lunatics are free to walk about and to amuse themselves just as they like. They willingly work on the farm, and the women cook as eagerly and cheerfully for the others as though they were living in their own homes, free from insanity. The total cost of this ideal asylum was \$2,000,000.

## Correspondence.

### TREATMENT OF INSANE CRIMINALS.

NEW YORK, October 28, 1915.

*Mr. Editor:* Your editorial in the issue of October 21st, 1915, on "Re-education of Demented Patients in Hospitals for the Insane," should have very wide publicity and work great good to many sufferers.

What you write is unquestionably true of hospitals for the insane who are not criminals, but how much worse is it for those who are thus classified.

I am familiar with both, as far as may be. In the latter, there are no kindly and intelligent visitors, who are appreciative of the patients' needs and who are able and willing to aid them by visiting and giving games, or instructions, which would be of great service in helping improve their woe-begone condition. During many years, and while prisons and

prisoners sadly required reform and improvement. I did what I could. To-day, my mind and heart go out a great deal more to the lot of the criminal insane, and I urge most strongly the great need in the directions so well emphasized by you.

Could you not direct special attention to this urgent need by the daily press, so that not only in Massachusetts, but also in New York and other states, more will be done than is now being effected. Not long since, I had this in mind and wrote to the warden of one of our large state hospitals for the criminal insane, to enquire if I could not be the means of acquiring games of different kinds for the prisoners in his charge? The reply came to me, that the supply was already large, or sufficient, and that my efforts in this direction were not, in his judgment, needed. Despite this statement, I can not agree with him and I am very glad to read an editorial like yours, which brings attention to what I still consider a crying want.

In New York to-day, there is some foolish doing alongside of a great deal that is beneficent and praiseworthy in the management of sane criminals, but for the insane criminals there is a great dearth of doing, which I greatly deplore.

May I hope to awaken among those who have knowledge and power, the desire further to know and follow what is now being done at the State Psychopathic Institute, Illinois, under the supervision of Dr. S. H. Clark, physician to this hospital.

It would be well if everyone should obtain and carefully read Dr. Clark's report in connection with your admirable editorial. At least, it would be very desirable for all those who have power, willingness and initiative, to do immense good to a large number of great and neglected sufferers.

To the prominent specialists in neurology, to the psychiatrists and to the wardens of state hospitals for insane criminals, I specially send this most sincere appeal.

BEVERLEY ROBINSON, M.D.

#### AN AMERICAN MEDICAL STUDENT IN SCOTLAND.

(From Our Special Correspondent.)

EDINBURGH, October 18, 1915.

Mr. Editor: I have been in Edinburgh working in the laboratories for almost two months now. The fall term at the University and the Royal Colleges of Edinburgh has just begun and a remnant of the original student body has returned. At the college where girls are allowed to study medicine there is a record enrollment and report has it that an unprecedented number of girls have entered for medicine in London also.

At the university here the large proportion of medical students are East Indians and South Africans now. There is no medical course given in British South Africa. The result is that many come across the water, most of them to Edinburgh. Very few of either Indians or South Africans have enlisted. When war broke out the Scottish students who were, many of them, already members of the artillery, enlisted in great numbers. This fall many of the more advanced men, who went off as medical assistants on submarines or destroyers, have reappeared in order to finish their courses. Commissions are held open to them as there is a considerable shortage of qualified men in both the army and navy. In fact, the army just recently sent out a call for 2500 more doctors.

A student who is staying in the same lodging house with me went to Belgium at the beginning of the war under Doctor Soutar. Later, although he had never obtained his degree, he was placed on a cruiser and took charge of the medical work there, having two destroyers also under his supervision. Now that he has returned he will take his final examinations in December. The authorities seem quite willing that the men should push through as quickly as possible.

It is interesting to hear the returned students talking of their classmates. "Such-and-such a man is wounded, in a French hospital; his room-mate is reported among the missing. Another has been sent home from the Dardanelles, sick with dysentery. Many have come back for that reason." Judging from the stories of these men, life in the Dardanelles must be more terrible than in France. The troops are never out of range of the Turkish guns. The beach seems to be the most dangerous place of all. Wounded are carried out, as best they can be, to hospital ships. They get no bread, only hard-tack, for food, and water must be brought great distances by boat. Their turns in the trenches have been sometimes as long as three weeks. During the past summer the flies, fleas and heat have been awful, and lately dysentery has arrayed itself on the side of their enemies.

On the whole, Edinburgh is the most warlike city I have visited in Great Britain. The Scotsmen tell you with great pride that Scotland has outstripped England, Ireland and Wales in recruiting. From every signboard and vacant window Lord Kitchener's posters glare upon the men who have not yet gone, and appeal to them in a hundred different ways to come along with "the boys at the front." Any evening that one may walk along Prince's street he is sure to find a recruiting meeting and, if he is a young man, people turn around and give him the "why aren't you in kahlki?" stare. One trolley car is set aside for recruiting. It passes along the different lines and extends a continual invitation to men to come aboard and enroll themselves with His Majesty's forces.

In the afternoons we often go out to play tennis and as we pass along the street with racquets and things, the little boys cry out after us—"shirkers! shirkers!" It makes even me, who am fortunate enough to be an American, feel very uncomfortable. I have almost grown used to being angrily stared at by women on the street cars. But it seems as though it would require more courage for a British subject to stay at home and face Scottish scorn than to enlist and face German artillery.

Conscription is a much debated topic. Most people with whom one talks favor it, but it seems doubtful now whether it will come for some time, if at all. The national registration slips are said to have been distributed to the various recruiting officers and it is expected that a thorough canvass of all men eligible for service will soon begin. But, notwithstanding the pressure of public sentiment, no city of Great Britain presents anything like the deserted appearance of a French city. In the Highlands of Scotland, I have been told, there are many small towns which have left to them not one able-bodied man. Conscription would, however, bring into the ranks very many men from the larger cities.

Sincerely yours,

W. G. F.

#### DRINKING WITH MEALS.

Boston, October 27, 1915.

Mr. Editor: The Massachusetts Anti-Tuberculosis League has been asked to prepare a legislative bill to prohibit saloon keepers from giving food to their patrons free of charge. Facts have been presented to us, showing the unclean condition of the utensils used on the food counter in the saloons and the probability that those eating food from these dishes are in danger of contracting tuberculosis. In talking this matter over with several physicians, the theory was advanced that it is much better for a person to take alcoholic beverages after eating than on an empty stomach. Connecticut, however, recently passed a law prohibiting the giving of free food to patrons of saloons. Will some of the medical readers of the JOURNAL be willing to send us their opinion in regard to this matter?

Yours very truly,

S. H. STONE, Secretary.

## PROGRAM, MENTAL HYGIENE CONFERENCE AND EXHIBIT.

Ford and Kingsley Halls, Ford Building, 15 Ashburton Place, Boston, Mass., November 17, 18, 19, 1915.

*Wednesday evening, November 17, 8 P.M.*

Presiding officer, William H. Burnham, Ph. D., Professor of pedagogy and school hygiene, Clark University, Worcester.

What Research Has Accomplished for Mental Hygiene. Dr. Elmer E. Southard, Director, Psychopathic Hospital, Boston.

The Meaning of the Mental Hygiene Movement.

Dr. William A. White, Superintendent, Government Hospital for the Insane, Washington, D. C.

*Thursday afternoon, November 18, 3 P.M.*

Presiding officer, Mrs. George A. Perkins, President, Massachusetts Federation of Women's Clubs, Boston. Social Service in State Hospitals.

Miss Mary C. Jarrett, Chief of the Social Service, Psychopathic Hospital, Boston.

Community Value of State Hospital Out-Patient Departments.

Dr. John B. MacDonald, Assistant Superintendent, Danvers State Hospital, Hathorne.

Occupation Therapy in State Hospitals.

Miss Emily L. Haines, Supervisor of Industries, Massachusetts State Board of Insanity.

What Shall be the Attitude of the Public Towards the Recovered Insane Patient?

Dr. Harry C. Solomon, Assistant Physician, Psychopathic Hospital, Boston.

After-Care of Mental Patients.

Dr. Henry P. Frost, Superintendent, Boston State Hospital, Dorchester Centre.

*Thursday evening, November 18, 8 P.M.*

Presiding officer, Dr. Allan J. McLaughlin, Massachusetts Commissioner of Health, Boston.

Preventable Forms of Mental Disease and How to Prevent Them.

Dr. E. Stanley Abbot, Pathologist, McLean Hospital, Waverley.

Rational Care of the Inebriate.

Dr. Irwin H. Neff, Superintendent, Norfolk State Hospital, Pondville.

What Recent Investigations Have Shown as to the Relation of Mental Disease and Crime.

Dr. A. Warren Stearns, Assistant to the Massachusetts State Board of Insanity, Boston.

The Relation of Alcohol to Mental Disease.

Dr. A. J. Rosanoff, Kings Park State Hospital, Kings Park, N. Y.

The Relation of Syphilis to Mental Diseases.

Dr. Samuel T. Orton, Pathologist, Pennsylvania Hospital, Philadelphia, Pa.

*Friday Afternoon, November 19, 3 P.M. Annual Meeting of the Society.*

Prof. William H. Burnham, President, Massachusetts Society for Mental Hygiene, presiding.

Dr. Charles E. Thompson, Secretary.

Report of the Secretary.

Report of the Executive Secretary.

Symposium: Mental Diseases: Methods and Program.

Dr. Walter Channing, Brookline.

Dr. Everett Flood, Monson.

Dr. George W. Gay, Boston.

Dr. L. Vernon Briggs, Boston.

Dr. John A. Houston, Northampton.

Dr. Herbert E. Howard, Boston.

Mrs. William H. Lathrop, Brookline.

Dr. Ernest V. Scribner, Worcester.

Robert A. Woods, Boston.

Mrs. Ada E. Sheffield, Cambridge.

Dr. George T. Tuttle, Waltham.

Dr. Henry P. Walcott, Boston.

## Election of Directors.

Terms expire 1915.

Hon. Henry V. Cunningham Mr. Seward W. Jones.

Hon. Henry Ehrlich, M.D. John M. Merriam, Esq.

Everett Flood, M.D. Bishop William Lawrence.

George W. Gay, M.D. Hon. Frank L. Randall.

Herbert J. Hall, M.D. Walter Channing, M.D.

John A. Houston, M.D. Hon. W. Murray Crane.

Vacancies.

Hon. Harvey H. Baker, deceased, Term expires, 1916.

J. E. A. Adams, M.D., deceased, Term expires, 1916.

*Friday evening, November 19, 8 P.M.*

Presiding officer, Dr. Franklin B. Dyer, Superintendent of Schools, Boston.

Mental Hygiene of Children.

William H. Burnham, Ph. D., Professor of Pedagogy and School Hygiene, Clark University, Worcester.

Mental Preparedness.

Dr. James J. Putnam, Professor Emeritus of Diseases of the Nervous System, Harvard University.

Hereditary and Mental Disease.

Dr. Henry H. Goddard, Director, Vineland Training School, Vineland, N. J.

## CHANGES IN THE MEDICAL CORPS, U. S. NAVY, FOR THE FOUR WEEKS ENDING OCT. 23, 1915.

September 26, Surgeon W. M. Garton, from *Solace* to Fleet Surgeon, Atlantic Reserve Fleet.

Surgeon C. G. Smith, detached, Naval Hospital, New York, to Bureau of Medicine and Surgery, Navy Department, Washington, D. C.

Surgeon C. M. Oman, to Naval Hospital, New York.

Surgeon P. A. Asserson, detached, *Wisconsin* to home, wait orders.

Surgeon E. M. Blackwell, detached, Bureau of Medicine and Surgery, Navy Department, to *Solace*.

P. A. Surgeon W. J. Biddick, from Naval Hospital, Norfolk, to *Nepheus*.

P. A. Surgeon P. E. Garrison, from *Solace* to *Washington*.

Surgeon W. D. Owens, from *Utah* to Training Station, Newport, R. I.

September 29, P. A. Surgeon A. E. Lee, Temporary duty, Navy Recruiting Station, Richmond, Va.

P. A. Surgeon G. R. W. French, from Naval Hospital, New York, to temporary duty at Navy Yard, New York.

Asst. Surgeon B. C. Willis, M.R.C., detached, Naval Recruiting Station, Richmond, Va.

September 30, P. A. Surgeon W. J. Zalesky, from Cavite Station, to *Saratoga*.

P. A. Surgeon, from Canacao Hospital, to *Wilmington*.

October 2, P. A. Surgeon W. L. Irvine, from Training Station, Newport, R. I., to *Chester*.

P. A. Surgeon H. L. Brown, from *Chester* to home, wait orders.

Asst. Surgeons, L. F. Drum, Paul Richmond, M.R.C., to Naval Medical School, Washington, D. C.

October 5, Asst. Surgeon S. D. Hart, from Newport Hospital to Newport Training Station.

October 12, P. A. Surgeon H. L. Smith, to Navy Yard, Boston, Mass.

P. A. Surgeon M. H. Ames, from Navy Yard, Boston, to *Georgia*.

October 12, P. A. Surgeon A. B. Clifford, from Naval Medical School, Washington, D. C., to U. S. S. *Washington*.

October 16, P. A. Surgeon G. D. Hale, from *Ohio* to *North Dakota*.

P. A. Surgeon F. H. Bowman, from *Ohio* to *Delaware*.

October 19, Surgeon F. E. McCullough, from San Francisco Training Station, to *Florida*.

Surgeon T. W. Richards, from *Florida* to *Maine*.

P. A. Surgeon G. W. O. Bunker, to Navy Yard, Portsmouth, N. H.

P. A. Surgeon G. E. Thomas from Navy Yard, Portsmouth, N. H., to *Utah*.

P. A. Surgeon, L. W. McGuire, from *Maine to Rhode Island*.

October 20. Surgeon P. S. Rossiter, from *Colorado to Training Station, San Francisco, Cal.*

P. A. Surgeon R. I. Longabaugh, to *Navy Yard, Mare Island, Cal.*

#### NOTICES.

CENSORS' MEETING OF NORFOLK SOUTH DISTRICT.—Meeting of the Censors of the Norfolk South District will be held at the office of the Secretary, 37 Holbrook avenue, South Braintree, Thursday, November 11, at 2 P.M.

Candidates for admission should bring their diplomas. F. H. MERRIAM, M.D., Secretary.

The Fourth "Authors' Evening" of Ten Papers. "A Second Contribution to the Neurology of Childhood," by Walter B. Swift, M.D., and assistants: C. A. Osborne, M.D., Ph.D., second assistant; Miss Jennie Hedrick, voluntary assistant. At the Voice Clinic, Psychopathic Hospital, 74 Fenwood Road, November 19, 1915, at 8 P.M. 1. The Signs and Symptoms of Stuttering. 2. The Physical and Mental Examination of Stutterers. 3. The Thymus as the Seat of Stuttering.—Browning. 4. Relation of Stammering to Right and Left-handedness. 5. Medical Aspects of Stuttering from the Teacher's Standpoint. 6. Incongruities in the Freudian Concept of Stuttering. 7. Five-Minute Summary of Spirometer Findings in Stutterers. 8. Further Psychological Steps in the Recovery of the Same Stutterer. 9. Psycho-physiological Analysis of Stuttering. 10. Locating the Speech Center by Hand Motions in Stutterers. First Note.

Physicians and medical students are invited.

Kindly drop a postal if you expect to attend to 110 Bay State Road, Boston, Mass.

#### SOCIETY NOTICES.

MASSACHUSETTS STATE NURSES' ASSOCIATION.—The autumn meeting of the Massachusetts State Nurses' Association will be held at Hotel Brunswick, Boston, Saturday, Nov. 13, 1915, at 3.00 P.M.

Address, Miss Anne W. Goodrich, R.N., asst. professor, dept. of nursing and health, Teachers College, New York City. Subject: "The Value of State Registration and Inspection of Training Schools."

Discussion.

THE MASSACHUSETTS LEAGUE OF NURSING EDUCATION will meet at the Central Directory, 636 Beacon St., Boston, at 11.00 A.M., the same day.

SARA E. PARSONS, President,  
CHARLOTTE W. DANA, Cor. Sec.  
24 McLean St., Boston, Mass.

NEW ENGLAND SOCIETY OF DERMATOLOGY AND SYPHILIS.—The next meeting will be held at the Boston City Hospital on Thursday afternoon, Nov. 18, at 3.30 P.M. Those interested are cordially invited to attend.

CHARLES J. WHITE, M.D., Secretary.

#### APPOINTMENTS.

UNIVERSITY OF PENNSYLVANIA. Dr. William G. Spiller has been appointed professor of neurology to succeed Dr. Charles K. Mills, who has become professor emeritus.

UNIVERSITY OF CINCINNATI. Dr. Edward F. Malone has been appointed associate professor of anatomy and Dr. John C. Donaldson instructor in anatomy.

CORNELL UNIVERSITY. Dr. Charles B. Morrill has been appointed instructor and Dr. Robert Chambers assistant in anatomy.

ALBANY MEDICAL COLLEGE. Dr. Wesley M. Baldwin has been appointed professor of anatomy.

#### RECENT DEATHS.

DR. EDWARD P. COLBY, who died recently in Boston, was born at Cincinnati on March 4, 1839. After obtaining his preparatory education at Claremont Academy, New Hampshire, he received the degree of M.D. in 1861 from the Long Island Hospital Medical College. He served throughout the Civil War as assistant surgeon in the United States Navy. Subsequently he settled in the practice of medicine at Wakefield, Mass., but removed to Boston in 1890, where he became professor of nervous diseases at the Boston University Medical School. He was consulting neurologist of the Massachusetts Homeopathic Hospital, the Westborough Insane Hospital and the Clinton Memorial Hospital. He was a member of the American Institute of Homeopathy, the National Society of Electro-therapeutics, the Massachusetts Homeopathic Medical Society, the Massachusetts Surgical and Gynecological Society and the Boston Homeopathic Medical Society.

DR. FRANK HERBERT DANIELS, a graduate of Harvard College in the class of 1879 and of the Harvard Medical School in 1884, died at his home in New York City, October 30, 1915. He was born in Charlestown, Mass., September 1, 1856, joined the Massachusetts Medical Society soon after graduating from the Medical School, and moved to New York the following year. There he had practiced since, being at one time physician to Manhattan Hospital and curator of Randall's Island Hospital.

DR. EDWARD E. FROST, who died on October 31, at Worcester, Mass., was born at Vernon, Vt., in 1850. He removed to Worcester in 1869 and after studying for a time in a dental office there, he entered the Harvard Dental School from which he graduated in 1875. After practicing his profession for a time at Worcester, he retired in 1880. He is survived by two daughters and three sons.

DR. JOHN HENRY HUDDLESTON, who died of pneumonia on October 30, in New York City, was born in Boston on July 11, 1864. He received the degree of A.B. from Harvard in 1886, that of A.M. in 1887 and that of M.D. in 1891. Since 1892 he had practiced his profession in New York. He was a member of the American Climatological Society, the American Public Health Association, the National Association for the Study and Prevention of Tuberculosis and a trustee of the New York Academy of Medicine. He was Carpenter lecturer at the Academy in 1902; and in 1903 was secretary of the American Committee for the fourteenth International Medical Congress at Madrid.

DR. EDWARD OSGOOD RICHARDS, who died on October 29 at Salem, Mass., was born in that city on January 8, 1856. After graduating from the Boston Dental College, he settled in the practice of his profession at Salem. He is survived by his widow, one daughter and one son.

DR. WILLIAM H. SCOTT, who died recently at Brookline, Mass., was born in 1832. He received the degree of M.D. from the Berkshire Medical College, and at the time of his retirement had practiced his profession for fifty years.

DR. WILLARD KNOWLTON DYER, who died on Oct. 18, in Boston, was born at that city in 1861. He obtained his medical education at the Harvard Medical School and had made a special study of diet in renal and diabetic disease. He is survived by one daughter.

DR. HERBERT E. KNOWLTON, who died on Oct. 24 in San Diego, Cal., was born at Belfast, Maine, in 1867. He received the degree of M.D. in 1891 from the Harvard Medical School and for twenty years subsequently practiced his profession in Cambridge, Mass. Since his retirement in 1911 he had lived in California. He was a non-resident member of The Massachusetts Medical Society. He is survived by his widow.